THE UTAH MEDICAL EDUCATION COUNCIL

UTAH'S PHYSICIAN WORKFORCE, 2012:

A Study on the Supply and Distribution of Physicians in Utah

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The Utah Medical Education Council

State of Utah

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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. The UMEC is presided over by an eight member board appointed by the Governor to bridge the gap between public/private health care workforce and education interests.

Our Mission:
To promote healthcare workforce planning, production, and policy through assessment, innovation, and collaboration with stakeholders

Our Vision:
The Utah Medical Education Council holds assessment, collaboration, and innovation as its core values and focuses on the interdependency of the three to promote healthcare workforce planning, production, and policy based upon the community's healthcare workforce needs.

Core Responsibilities – Healthcare Workforce

- Assess – supply and demand
- Advise/develop policy
- Seek and disburse Graduate Medical Education (GME) funds
- Facilitate training in rural locations
- Manage Utah's GME demonstration project awarded by the Center for Medicare & Medicaid Services (CMS)

Members of the UMEC include:

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ADDITIONAL RESOURCES

HEALTHCARE WORKFORCE REPORTS

Since its establishment, the UMEC has completed multiple reports on healthcare workforce in Utah, including:

- Advanced Practice Nurses (CNM, CNS, CRNA, NP)
- Dentists
- Medical Technologists
- Pharmacists
- Podiatrists
- Physicians
- Physician Assistants
- Radiology Technologists
- Registered Nurses

For access to any of these reports, please log on to our website at: **www.utahmec.org**

PHYSICIAN JOB OPPORTUNITIES IN UTAH

The UMEC conducts annual job fairs for Physicians and Advanced Practitioners (PAs, APRNs including CNAs, CNMs, CRNAs, and NPs) attending training programs and/or practicing in Utah. These job fairs are free of cost for attendees and are geared towards promoting retention of Utah trained workforce in Utah. Major health care employers in Utah are invited to recruit at the fairs. As a part of its rural workforce initiative, the UMEC encourages rural and frontier hospitals, clinics, and practices to take part in these job fairs by discounting their participation fees.

In addition, the UMEC also hosts a job board on its website. For a listing of Utah physician jobs by specialty, please access our website at: **http://www.utahmec.org/jobboard.php**

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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. In the 1990s, researchers projected 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, a number of researchers reassessed the physician workforce only to find that contrary to a physician surplus (Schwartz & Mendelson, 1990) (Cooper, Getzen, McKee, & Laud, 2002) (Schwartz & Mendelson, 1990) (Lohkamp & Simmons, 1995), the nation was headed toward a serious national physician shortage—one that could be as high as 200,000 physicians by 2020. (Cooper, 2004)

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 current conditions make it more difficult to compete for physicians. The upcoming health reform requirements will only intensify the need for physicians and other health providers in Utah. 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 Utah Medical Education Council (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 2010, there were 5,996 physicians working in Utah. Of those, 4,977 were active patient care providers, meaning they spent more than 50% of their work week in direct patient care or teaching. This supply equates to approximately 178 patient care physicians per 100,000 people, which is below the nationally recommended ratio of 290 physicians per 100,000 people for physician workforce adequacy by the Council on Graduate Medical Education (COGME). (COGME, 2005) *(See Page 1)*
2) Utah physicians are relatively younger than their national counterparts. The average age of physicians practicing in the nation is 51.5 years (American Medical Association (AMA), 2010, p. 15); in Utah the average age is 48.7 years (SD=11.7). Only 9% of the Utah workforce is 65 years or older compared to 20% of the national workforce. *(See Page 8)*
3) The self-reported average age of retirement for Utah physicians is 65 years (SD=5.9). The number of young physicians (<45 years old) who reported plans to retire early (before they are 60 years old) has reduced by four fold since 2003, reflecting a change in lifestyle preferences of the younger physician cohort. *(See Page 9)*
4) In 2010, 21% of all Utah physicians (including residents and fellows) were female compared to 29% nationally. In 2010, 37% of all survey respondents who are trainees (residents/fellows) were female compared to 20% of all practicing physicians. This suggests that the future physician workforce may have a larger percentage of female physicians. However, medical schools (both in Utah and across the nation) are seeing a decline in the percent of female applicants and matriculants since 2003. This change will be reflected in our future workforce and needs to be monitored.*(See Page 12)*

5) Primary care physicians earn 34% less per annum than their specialist counterparts in Utah. The median income (adjusted for hours worked) for primary care physicians in Utah was about $133,000 and about $178,000 for specialists, with further variations in income by specialty. This has increased from $125,000 for primary care physicians and $170,000 for specialty care physicians in 2003, translating to a 6.4% and a 4.7% growth respectively over the past seven years. *(See Page 17)*
6) Sixty-six percent of the physicians practicing in Utah have had some previous contact with the state, either through upbringing, medical education, or residency training, compared to 86% in 2003. This might be a good sign for Utah in that it is attracting more physicians to the state with no ties to the state. It also suggests that Utah is increasingly reliant on recruiting from the national pool, which could become problematic if demand for physicians increases nationwide. Factors attracting these physicians to the state need to be studied and reinforced to maintain and expand this supply source. *(See Page 20)*
7) In 2010, 36% of Utah physicians practiced in generalist fields (family medicine, general internal medicine, pediatrics, and general obstetrics and gynecology). Primary care workforce grew by 37% since 2003. During the same period, specialty workforce grew by 32%. Despite the growth, there is growing concern over whether or not our current training capacity is enough to meet the statewide needs in primary care. While the implementation of health reform will increase the demand for generalist and specialist physicians, recent focus on patient centered, team-based healthcare system across the nation might add to the already pent up demand for primary care workforce. *(See Page 6)*
8) About 5% of Utah physicians reported a full practice (they cannot accept any new/additional patients), of whom 56% reported practicing a primary care specialty. About 34% reported a nearly full practice (they can accept some new/additional patients), 40% of these were practicing a primary care specialty. This implies that about 39% of our physicians are either at or near full capacity and cannot take any new/additional patients. This is close to the 43% who reported full or nearly full practices in 2003. More importantly, 50% or more of all primary care specialists except pediatricians have reported full or nearly full practices in the state. *(See Page 18)*
9) The primary care physician workforce (FM, IM, Peds, Ob/Gyn) in the state seems equitably distributed geographically. In 2010, approximately 15% of Utah's population lived in rural counties, while 12% of the primary care physician workforce provided services in those areas. Despite this equity, 23 of the 29 counties in Utah still had some form of Primary Care Health Professional Shortage Area (HPSA) designation, suggesting that other forms of maldistribution, such as overwhelming physician patient loads, extensive waiting periods, and excessive use of emergency departments for routine treatment etc., might be prevalent. *(See Page 22)*
10) Utah will need 332 physicians each year – 119 to replace the retiring physicians, 32 to adjust for the loss in FTEs due to physicians reducing their hours before retirement, and 181 to adjust both for the growing population (173 physicians per year) and to meet the increasing needs due to the aging population (8 additional physicians per year). Utah training programs supply about 95 physicians per year to the state workforce. About 122 physicians come to practice in Utah each year because of their ties to Utah. Another 119 physicians who come to practice in Utah each year do not have any ties to Utah and are imported from other states. Currently, Utah has no problem meeting its physician workforce needs. The 119 physicians

who come to Utah from other states are termed as Utah's risk pool. If the national shortage projections were to materialize, continuing to attract these physicians to Utah will become increasingly challenging. *(See Page 30)*

11) General surgery, gastroenterology, rheumatology, internal medicine, and cardiology appear to be specialties in severe need. Close attention should also be paid to the workforce trends in allergy and immunology, cardio-thoracic surgery, child and adolescent psychiatry, and pulmonary disease/CCM. (*See Page 35*)

Policy Recommendations: To develop a comprehensive i.e., a sustainable, efficient, and effective workforce supply for Utah, a strategy that addresses pipeline development, workforce training, distribution, and management of the workforce is required. The UMEC makes the following recommendations to address the same:

1. **Pipeline Development:** Introduce medicine as a career choice early on in the educational pipeline. Early intervention is vital to maintain a constant, ethnically and geographically diverse source of talent pool for our future workforce. The Area Health Education Centers in Utah and the Southern Utah University's Center for Rural Health are two agencies that are actively engaged in this process. The UMEC recommends that continued support be provided to these agencies in order to strengthen their efforts.

2. **Recruitment & Retention:** A majority of the UMEC health professional workforce studies indicate that individuals with Utah ties are more likely to stay and practice in Utah. As such, the UMEC recommends the following measures to strengthen our workforce:

    a. **Reinstate loan reimbursement programs** like the Utah Healthcare Workforce Financial Assistance Program and the state matching program with the National Health Service Corps, which are administered by the Utah Department of Health. Given the high recruitment costs for physicians and the cost of not having a required physician in the community (see *Page 24*), the need to replace about 31% of the rural physician workforce in the next ten years, and the difficulties in attracting new physicians to replace those who are retiring, the UMEC recommends that the state not only reinstate funding, but also consider expanded funding for these programs.

    b. **A master database of Utah students in non-Utah training programs:** In addition to reinforcing Utah training programs, the UMEC recommends that the state, in collaboration with the UMEC and the Board of Regents, develop a database that identifies applicants and/or enrollees from Utah to the various medical schools across the nation. Such a database can be populated with information from the American Medical College Application Service (AMCAS) housed by the American Association of Medical Colleges (AAMC) and the American Association of Colleges of Osteopathic Medicine Application Service (AACOMAS). Using this database in conjunction with the proposed clearing house for clinical rotations (3a) will provide future professionals being trained outside of Utah with opportunities to develop professional ties to Utah. In addition, employment opportunities can also be forwarded as needed to the

members of this database as they graduate from their GME programs and become available for service.

c. Encourage training program directors to **identify students that are likely to remain in a Utah practice and assist in finding local opportunities for them** while they are enrolled in a training program in Utah. Through its annual job fairs, the UMEC brings Utah practice opportunities closer to the students, residents, and fellows in Utah training programs. Continued support for such recruiting events exclusive for Utah opportunities is encouraged.

d. **Track resident retention** – both in terms of trainees staying in Utah for practice, and by rural and urban practice settings to understand the trends, and factors that impact workforce retention and turnover. Either the UMEC or the Utah Division of Occupational and Professional Licensing (DOPL) could house and manage this database.

3. **Workforce Training Development:** The current training models, while producing a high quality healthcare workforce, are insufficient to meet the needs of an up-and-coming patient-centered, medical home system. Ongoing turf battles, lack of clinical training sites, and lack of an integrated team-based training system are some of the major hurdles that need to be addressed. The UMEC makes the following recommendations:

   a. **Develop or expand programs to accommodate the needs of the state:** The UMEC recommends that the class size of the University Of Utah School Of Medicine be reinstated and, if possible, increased to accommodate for the growing need of physicians. The UMEC also recommends that residency and fellowship programs continue to be monitored and expanded as needed based on prioritized needs of the state.

   b. **Develop rural exposure & training opportunities:** Efforts should be made to increase exposure to rural medical practices. This will help trainees to familiarize themselves with the opportunities and hurdles posed by a rural environment and therefore, increase the likelihood that trainees will consider these areas as potential practice sites.

      The state of Utah currently funds clinical rotations for medical and dental residents; physician assistant students, and nurse practitioner students in various training programs across Utah. These funds are managed by the UMEC. Continued support and expansion of this program is recommended.

      The Association of Utah Community Health Centers also coordinates a clinical rural rotation program through its Student/Resident Experiences and Rotations in Community Health (SEARCH) program that enables students and residents to serve clinical rotations on multidisciplinary healthcare teams in underserved communities across the United States and its territories. Efforts should be made to strengthen this program and harness it to benefit Utah optimally.

Development of new rural residency training programs and tracks should be explored in the state, especially for primary care specialties, given that graduates from such programs/tracks are more likely to practice in rural areas. (Rosenthal & Danzo, 2000) (Pathman D. , Steiner, Jones, & Konrad, 1999) (Catinella, Magill, Thiese, Turner, Elison, & Baden, 2003) The University of Utah Hospital and Clinic Systems and Intermountain Healthcare should consider hosting such programs in their rural locations. Alternately, Community Health Centers and/or medical group practices in rural locations can act as training sites.

Incentivize retired physicians to provide services in a rural area for a fixed period of time. Tracking retired physicians with Utah ties, both in primary and specialty care, and inviting them to practice in the economically and geographically underserved areas of Utah is one way to address the maldistribution issue in Utah. Given the fact that more physicians are likely to retire in the near future (impact of the baby boomer generation), this cohort could be the solution to address the immediate needs of the state. The Utah Division of Occupational and Professional Licensure (DOPL), Utah Department of Health (UDOH), and the Utah Medical Association (UMA) might form an alliance to develop an action plan to harness this resource.

c. **Build a clearing house for clinical rotations**: An agency that helps coordinate clinical rotations for the various GME training programs, including Physician Assistant and Advanced Practice Registered Nurse workforces is recommended.

The presence of such an agency will not only mitigate turf battles, but will also give a chance to promote rural exposure to the students/residents who seek rotations. In addition, the major hospital systems close to the training centers will be spared from a bombardment of applications for clinical rotations every year. Possibility of a team-based, clinical training system can be explored through this agency, which will help cater to the needs of a patient-centered, medical home model. This will also help prioritize rotations based on the specialty and scope of skills needed across the rotation sites. Such an agency, working in tandem with the clinics and hospitals, can help promote recruitment and retention of Utah trained professionals in Utah. The UMEC is suitably equipped for this task.

d. **Develop a team-based approach and interdisciplinary training:** It is ineffective to address the physician workforce issues as a stand-alone issue in the complex net of our current and evolving healthcare system. Mid-level providers, like Physician Assistants and Advanced Practice Nurses, have become indispensable in most healthcare settings, including but not limited to hospitals, physician group practices, etc. Medical teams are vital for the up-and-coming patient-centered, medical home model. As such, these workforces need to be trained in teams to be effective in a real work setting. Focus on developing curricula which integrates the training of these workforces is important. These efforts will also help improve productivity, while reducing inefficiencies and turf battles in the long run. A consortium of training programs in the state, under the leadership of the Board of Regents, should undertake this charge.

4. **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.

    a. **Collect core workforce data more periodically through Utah DOPL:** While the UMEC continues to collect information regarding the practice and demographic characteristics of the healthcare providers in Utah, the information, although periodic, is spaced out at five-year intervals. More current data is required to make the day-to-day policy decisions and as such recommends that the Utah DOPL incorporate a few core questions into its license application and renewal forms. Doing so will enable the state to have updated data once every two years with minimal cost.

    b. **Develop a coalition of agencies that house state data:** While many agencies collect healthcare data, 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. Partnership between the Utah Health Data Committee, the Utah Medical Education Council, Utah Health Insight, the Utah Health Information Exchange, the Utah Department of Workforce Services, Utah DOPL, and other agencies that collect healthcare data is strongly recommended.

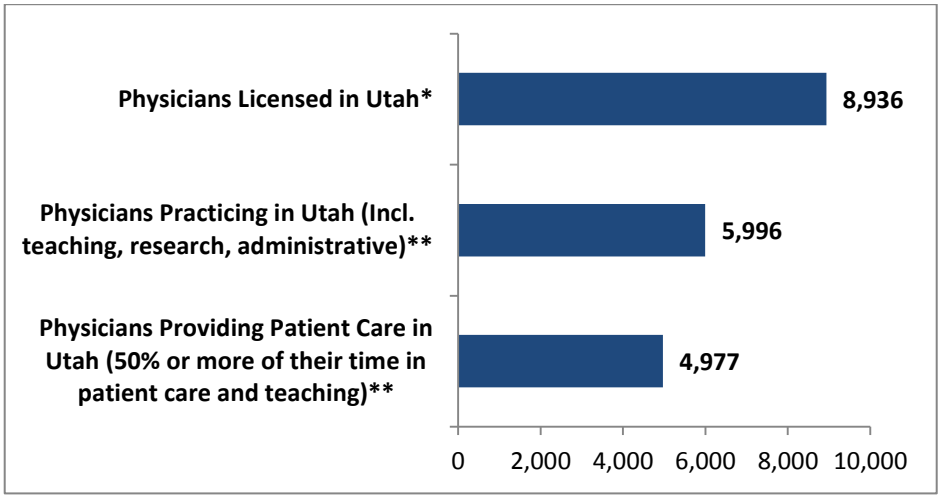
    c. **Develop Student, Retention, and Rotation Databases:** In addition to developing partnerships, and a more periodic and consistent data collection system, the UMEC also recommends creating and maintaining a
        i. student database that identifies students with Utah ties in non-Utah training programs,
        ii. a retention database that identifies the trainees from Utah programs that are being retained in the state and their characteristics, and
        iii. a clinical rotation clearing house development that enables better coordination of team-based training, efficiently utilizing the resources in the state to train those most needed by the state.

CHARACTERISTICS OF THE PHYSICIAN WORKFORCE IN UTAH

AGGREGATE SUPPLY

As of December 2009, there were 8,936 (8,479 allopathic and 457 osteopathic) physicians licensed in the state of Utah. From that number, 5,507 (61.6%) responded to the UMEC survey. Of the 5,507 respondents, 3,695 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 5,996 physicians working in Utah. This means that only 67.1% of the physicians licensed in Utah actually provide services in the state. Of those that were providing services in Utah, 83% (4,977) spend 50% or more of their time in direct patient care and/or teaching.

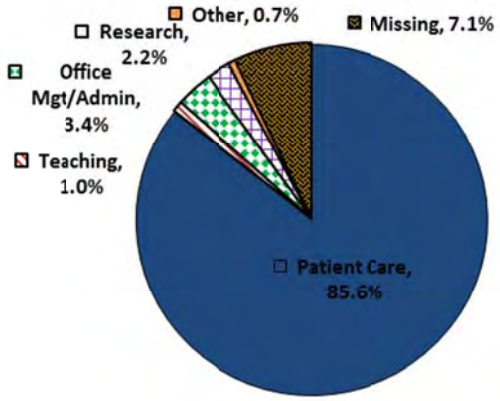
Figure 1: Breakdown of Physicians Licensed in Utah, 2010



*Includes physicians working in Utah and physicians working in other states. Some physicians hold licenses in multiple states.
**The unweighted number of physicians practicing in Utah is 3,601. Of these, 3,135 provide 50% or more of their time in patient care or teaching.

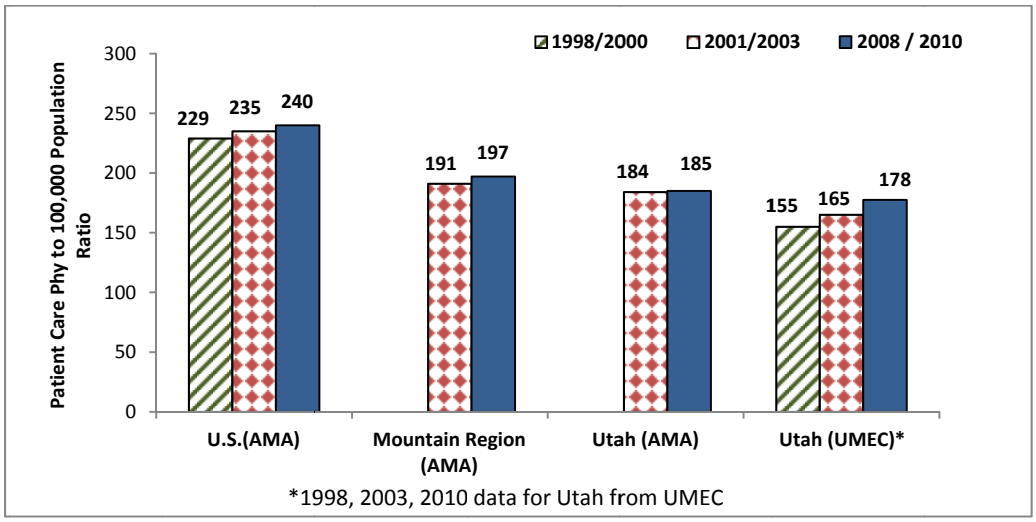
Although raw numbers provide some indication of the current supply, the adequacy of a workforce is better understood in terms of physician-to-population ratios. The physician-to-100,000 population ratio does not address factors like physician productivity, practice choices, mid-level providers and auxiliaries employed, and geographic mal-distribution issues. Despite these limitations, the physician-to-population ratio is used to measure the adequacy of the workforce due to its simplicity and comparability.

Figure 2: Major Professional Activity of Physicians Practicing in Utah, 2010[1]



Based on the July 1, 2009 population estimate of 2,800,089, Utah had 178 patient care providers-per-100,000 population. This estimate falls below the AMA's 2008 estimate for Utah physicians, 185 patient care providers-per-100,000 population. It is interesting to note that, with survey data from two years after the 2008 AMA estimate, the UMEC still estimates a lower number of physicians than the AMA. This is likely due to the UMEC not including physicians who are not providing services in Utah. However, it is important to note that Utah has a lower physician-to-population ratio than both the Mountain region's[2] average of 197 patient care providers per 100,000, and the national average of 240 patient care providers per 100,000.

Figure 3: Physician-to-Population Ratio Estimates, American Medical Association and Utah Medical Education Council



While the physician-to-100,000 population ratio has grown since 1998 (Figure 3), it is unclear whether the current ratio is adequate to meet the needs of the nation, or of Utah. In 2005, the Council on Graduate Medical Education (COGME) projected (base-line projection) that the

[1] An activity (patient care, teaching, management/administration, or research) is characterized as a physician's major professional activity if the physician reported a higher percentage of his or her time in that activity than the others.
[2] Mountain Region: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.

nation will need a physician-to-100,000 population ratio of 294 in 2010. (COGME, 2005) In 1996, the 8th report published by COGME states "COGME believes that ranges of patient care generalists between 60-80 per 100,000 population and specialists between 85-105 per 100,000 population are reasonable estimates of physician utilization in the early 21st century", placing the estimated demand at 145-185 physicians-per-100,000 population ratio. (COGME, 1996)

The national ratio of 240 physicians-per-100,000 population falls short of this projected demand estimate for 2010 (294 physicians-per-100,000 population), but well above the 145-185 physicians-per-100,000 population demand estimate. The Utah ratio falls within this 145-185 physicians-per-100,000 population range, but seriously short of the 294 physicians-per-100,000 population demand projected for 2010. Utah has a relatively healthy population compared to the rest of the nation, which might explain the lower physician-to-population ratio. (United Health Foundation, 2010) However, the large difference between 2010 demand projections and Utah's current ratio of providers-to-100,000 populations is a cause for concern.

FULL TIME EQUIVALENTS (FTE)

Another way of estimating the current physician workforce is through full-time equivalent (FTE) estimates. While there are approximately 5,996 physicians working in Utah, not all of these physicians are working the same number of hours each week. In order to adjust the estimate for physicians working in Utah to reflect this difference in work hours, FTE measures have been used. FTEs are typically calculated using the number of hours an employee is expected to work in a given industry. For physicians, this is a difficult benchmark to obtain, given their varying specialties, practice settings, and funding sources. The federal government uses the standard 40 hour work week methodology (U.S. Health Resources and Services Administration (HRSA)), according to which physicians working 40 or more hours are counted as 1 FTE, physicians working less than 40 are counted as a percentage (20 hours a week equals 0.5 FTE). For ease of use, an FTE calculated using this method will be referred to as the **"Standardized FTE."** Using this approach, there were 5,635 physician standardized FTEs practicing in Utah in 2010. The standardized FTE was used by the UMEC for developing a specialty needs model discussed further in the "Workforce Requirements in Specialty and Subspecialty Areas" section of this report. Further adjustments were made to account for physicians who only have a secondary practice in Utah. The strength of this approach is that it makes Utah data comparable with national and regional workforce data, and enables the use of national standards to measure Utah's future needs.

However, the standardized FTE approach risks under-counting the available physician workforce capacity in Utah since it neglects the fact that physicians typically work more than 40 hours per week (see section "Work Hours"). Another FTE measure, termed as the **"Total Hour FTE"** is computed as a percentage of 40 hours, where 60 hours per week=1.5 FTE, 40 hours per week=1 FTE, and 20 hours per week=0.5 FTE. The total hour FTE does not discount the hours worked by a physician above 40 hrs/wk and therefore provides a more comprehensive measure of the available healthcare capacity of physicians in Utah. Using this approach, there are an estimated 7,547 total hour FTEs practicing in the state of Utah. In addition to being more accurate, the total hour FTE approach can be applied to assess and compare the workload across physician

specialties and geographic practice locations more effectively. The average FTE of physicians computed using this method by specialty sheds light on the varying workloads of physicians by specialty in the state.

Table 1 compares the physician head counts by specialty to the standardized FTE (>40 hrs/wk=1FTE) and the total hour FTE (60 hrs/wk =1.5 FTE; 40 hrs/wk=1 FTE; 20 hrs/wk=0.5 FTE). It also provides a mean total hour FTE for each specialty and the standardized FTE adjusted for physicians whose primary practice is not in Utah (physicians with primary practice locations outside Utah are counted as 0.33 FTE). Specifically, this adjusted standardized FTE measure will be used in our specialty needs assessment model. (See Section: Workforce Requirements in Specialty and Subspecialty Areas)

Table 1: Supply of Physicians – Headcounts, Total Hour FTEs, and Standardized FTEs

Primary Specialty	Physician Count (A)	Standardized Physician FTE (B)	Adjusted Standardized Physician FTE (C)	Total Hour Physician FTE (D)	Mean Total Hour Physician FTE (E)
Allergy and Immunology	34	31	28	34	1.0
Anesthesiology (General)	409	389	333	530	1.3
Anesthesiology Subspecialties	10	9	8	13	1.3
Anesthesiology-Pain Management	36	36	31	44	1.2
Cardiology	99	96	78	144	1.5
Critical Care Medicine	34	34	30	58	1.7
Dermatology	130	119	107	136	1.0
Emergency Care	362	327	293	372	1.0
Endocrinology and Metabolism	24	22	21	31	1.3
Family Medicine	899	855	846	1,128	1.3
Gastroenterology	65	60	52	81	1.3
Geriatrics	19	19	16	28	1.4
Hematology/Oncology	70	68	61	94	1.4
Hospice and Palliative Medicine	11	10	10	13	1.1
Infectious Diseases	36	36	25	50	1.4
Internal Medicine (General)	472	439	387	583	1.2
Internal Medicine and Pediatrics	42	39	35	57	1.3
Internal Medicine Subspecialties	3	3	2	5	1.5
Nephrology	41	40	34	54	1.3
Neurology	99	96	77	135	1.4
Nuclear Medicine	3	2	2	2	0.6
Obstetrics/Gynecology (General)	308	290	269	436	1.4
Obstetrics/Gynecology Subspecialties	34	34	26	49	1.4
Ophthalmology	177	163	142	198	1.1
Other Specialty	101	90	81	120	1.2
Otolaryngology	101	96	85	131	1.3
Pathology (General)	122	115	97	154	1.3
Pathology Subspecialties	42	41	34	50	1.2
Pediatrics (General)	456	418	402	536	1.2
Pediatrics Subspecialties	128	125	107	177	1.4
Physical Medicine and Rehabilitation	91	88	82	107	1.2
Preventive Medicine/Public Health/Occupational	57	50	48	59	1.0
Psychiatry	195	177	160	220	1.1
Psychiatry Subspecialties	18	16	16	18	1.0
Psychiatry-Child and Adolescent	55	51	49	68	1.2
Pulmonary Disease/CCM	58	57	44	94	1.6
Radiology (Diagnostic)	250	235	178	308	1.2
Radiology (Therapeutic)	29	27	24	36	1.2
Rheumatology	26	23	18	29	1.1
Sleep Medicine	8	7	5	10	1.2
Sports Medicine	15	14	14	18	1.3
Surgery (General)	182	177	158	280	1.5
Surgery Subspecialties	114	111	95	166	1.5
Surgery-Cardio-Thoracic	32	32	31	53	1.6
Surgery-Orthopedic	242	228	224	331	1.4
Surgery-Plastic	88	83	79	111	1.3
Urgent Care	21	17	17	18	0.8
Urology	84	80	71	112	1.3
Missing	65	58	51	68	1.1
Total	5,996	5,635	5,083	7,547	-

A: Total number of physicians

B: Standardized FTE where 40 or more hrs/wk=1 FTE; 20 hrs/wk=0.5 FTE

C: Adjusted Standardized FTE where for each physician who has his/her primary practice setting outside Utah is adjusted to be 0.33 FTE

D: Total Hour FTE where 60hrs/wk=1.5FTE; 40hrs/wk=1 FTE; 20 hrs/wk=0.5 FTE

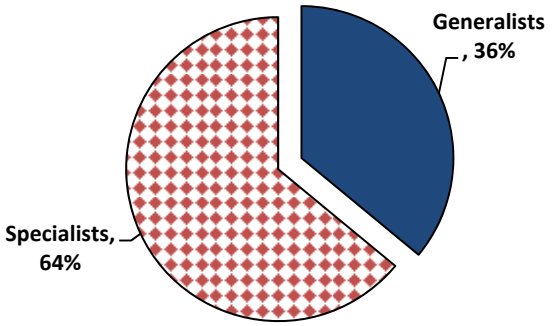
E: =B/A; Average Total Hour FTE of physicians in that specialty

SPECIALTY DISTRIBUTION

The physician workforce in Utah has grown by 33.7% (from 4,483 in 2003 to 5,996 in 2010). Utah's primary care workforce grew by 37.3% (from 1,556 in 2003 to 2,136 in 2010), while the specialty care workforce grew over the same period by 31.7% (from 2,883 in 2003 to 3,796 in 2010). Thirty-six percent (2,136) of the 2010 physician workforce practices primary care specialties (family medicine, general practice, internal medicine, pediatrics and obstetrics/ gynecology). Nationally, 39% of the physician workforce is in primary care. (American Medical Association (AMA), 2010, p. 9)

The 2003 report does not include obstetrics/gynecology in primary care. However, this report includes obstetrics/gynecology in primary care in line with the national (HRSA and AMA) practices.

Figure 4: Distribution of Generalists & Specialists in Utah, 2010



Among the primary care specialties, general internal medicine has seen the largest percentage growth (45%) from 2003-2010, followed by pediatrics (40%), family medicine (38%), and obstetrics/gynecology (23%). Family medicine has seen the largest growth in the number of physicians (245).

Among other specialties, cardio-thoracic surgery and allergy & immunology have doubled in the number of physicians. Dermatology (71%), anesthesiology (general) (68%), hospice and palliative medicine (59%), nephrology (58%), and psychiatric subspecialties (56%) are the specialties that have seen more than a 50% growth in workforce. Fifteen other specialties have seen more than 25% growth, while 6 specialties have seen more than 10% growth. Five specialties have lost physicians – geriatrics, sub-specialties of pathology, pediatrics, obstetrics/gynecology, and anesthesiology. It should be noted however, that this loss could also be a result of survey response bias within specialties between 2003 and 2010.

There is growing concern over whether or not the current primary care training capacity is enough to meet statewide needs. While the implementation of healthcare reform (i.e., Patient Protection and Affordable Care Act) will increase the demand for generalist and specialist physicians, recent focus on a patient-centered, team-based healthcare system across the nation might add to the already pent up demand for primary care workforce.

In the meantime, a good portion of the physician workforce is already at or near full capacity and, therefore, is unable to expand their services (see "Practice Status" section). About 5% of the workforce reported a full practice, of whom, 56% reported practicing a primary care specialty. About 34% reported a nearly full practice of whom 40% were practicing a primary care specialty. Physician capacity needs to be watched closely, especially given the impact of life style preferences of younger physicians on their practice choices.

The desire for a better family life and non-work interests is playing a greater role in the professional decisions of U.S. medical students. In one study, 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. (Dorsey, Jarjoura, & Rutecki, 2003) A more recent study indicates that, while more medical students viewed internal medicine as a potentially meaningful career than their older cohorts, negative perceptions on workload and stress along with higher debt loads are steering medical students away from general practice specialties. (Schwartz, Durning, Linzer, & Hauer, 2011)

Table 2: Specialty Distribution in Utah, 2010

Specialty	Frequency	Specialty	Frequency
Allergy and Immunology	34	Otolaryngology	101
Anesthesiology (General)	409	Pathology (General)	122
Anesthesiology Subspecialties	10	Pathology Subspecialties	42
Anesthesiology-Pain Management	36	Pediatrics (General)	456
Cardiology	99	Pediatrics Subspecialties	130
Critical Care Medicine	34	Physical Medicine and Rehabilitation	91
Dermatology	130	Preventive Medicine/Public Health/Occupational	57
Emergency Care	362	Psychiatry	195
Endocrinology and Metabolism	24	Psychiatry Subspecialties	18
Family Medicine	899	Psychiatry-Child and Adolescent	55
Gastroenterology	65	Pulmonary Disease/CCM	58
Geriatrics	19	Radiology (Diagnostic)	250
Hematology/Oncology	70	Radiology (Therapeutic)	29
Hospice and Palliative Medicine	11	Rheumatology	26
Infectious Diseases	36	Sleep Medicine	8
Internal Medicine (General)	472	Sports Medicine	15
Internal Medicine and Pediatrics	42	Surgery (General)	182
Internal Medicine Subspecialties	NR	Surgery Subspecialties	114
Nephrology	99	Surgery-Cardio-Thoracic	32
Neurology	NR	Surgery-Orthopedic	242
Nuclear Medicine	308	Surgery-Plastic	88
Obstetrics/Gynecology (General)	34	Urgent Care	21
Obstetrics/Gynecology Subspecialties	34	Urology	84
Ophthalmology	177	Other Specialty	101

*NR – Non Reportable, if count less than 5

DEMOGRAPHIC CHARACTERISTICS

AGE

Age distribution is one of the strongest predictors of future workforce availability. The median age of physicians did not change since 2003 (48 years).[3,4] The average age of all Utah physicians is 48.7 years (SD=11.7) compared to 51.5 years nationally. (American Medical Association (AMA), 2010, p. 15) The percentage of younger physicians (<35 years of age) in Utah has grown from 7% in 2003 to 10% in 2010. The percentage of physicians over the age of 55 has also increased from over 27% in 2003 to 29% in 2010. (See Figure 5) Nationally, 15% of the physicians are under 35 years old, while 20% are aged 65 and above compared to Utah's 10% and 9% respectively. (See Figure 6)

Figure 5: Physician Age Distribution, Utah, 1998 through 2010

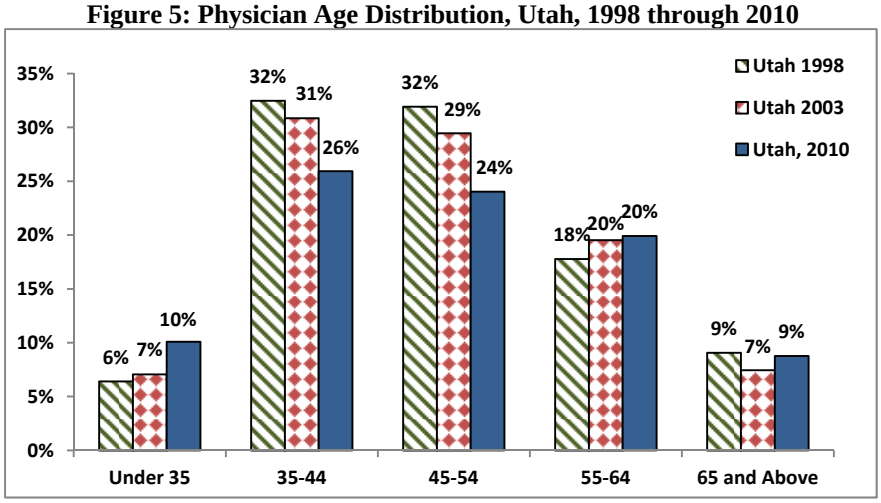
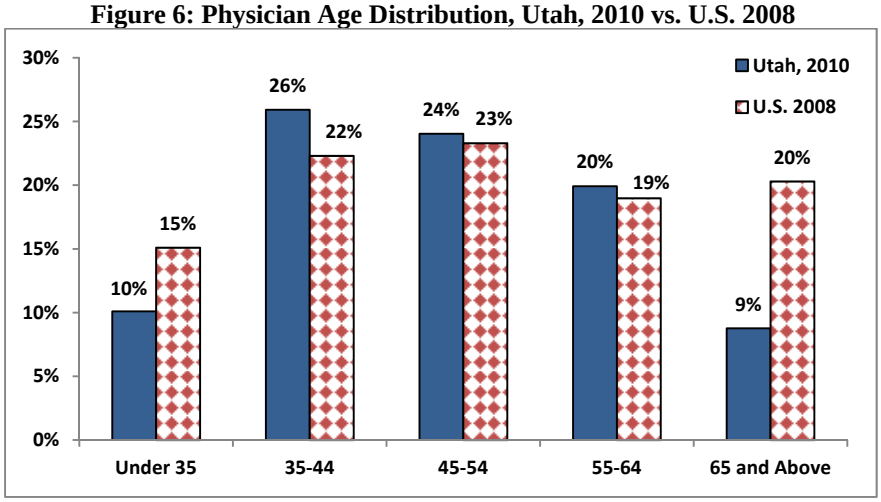


Figure 6: Physician Age Distribution, Utah, 2010 vs. U.S. 2008



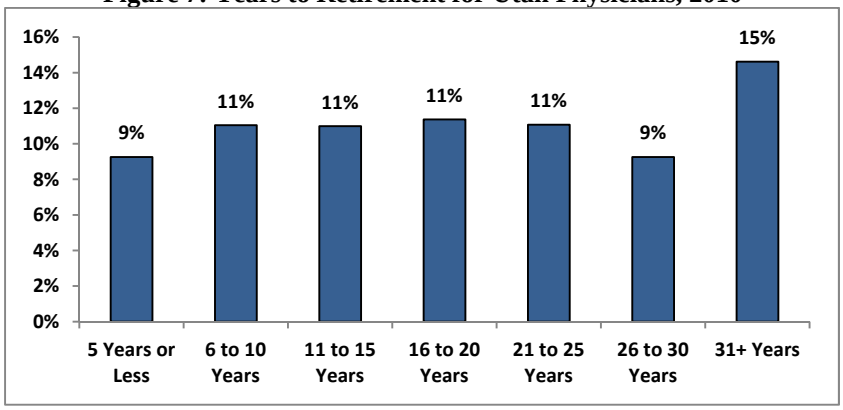
[3] M=48.7 years; SD=10.8

[4] Includes residents training in Utah with a Utah license; and have responded to the survey. Looking separately at physicians and residents in 2010, their average ages were 49.6 years (SD=11.1, Median=49) and 32.7 years (SD=4, Median=32) respectively.

RETIREMENT

The self-reported average age of retirement for Utah physicians is 65.2 years (SD=5.9, Median=65). Based on the current age of our physician workforce, this implies that Utah will have to replace about 1,194 physicians (physicians currently in the age group 55-64) over the next ten years. This translates to an average loss of about 119 physicians per year. (See Figure 7) Less than half of their replacements will come from Utah training programs. The rest must be recruited from other states.

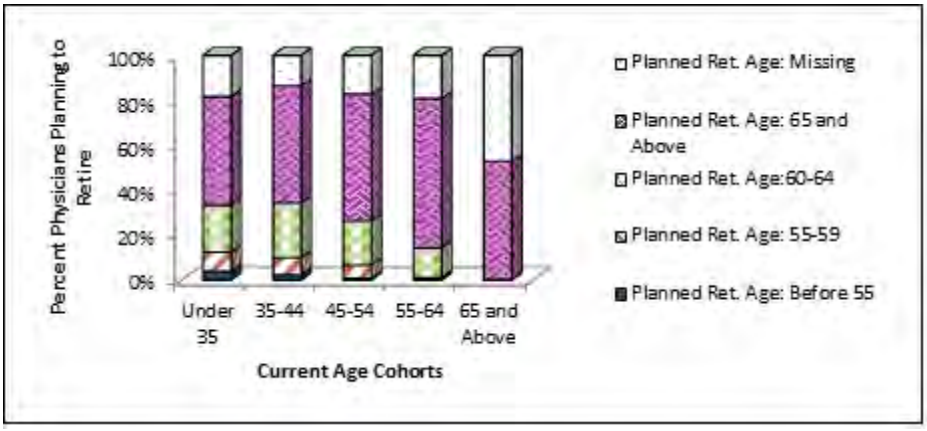
Figure 7: Years to Retirement for Utah Physicians, 2010



The estimate on physician retirement does not account for the increasing number of physicians choosing early retirement or change in career. 6.4% (381) of all Utah physicians reported planning to retire before turning 60 years old. Of these, 60.6% (231) are less than 45 years old. Eighty-three physicians in this group have reported retirement plans in the next 15 years. In 2003, this number was 249.[5] In other words, the number of young physicians (<45 years old) who reported plans to retire early (before they are 60 years old) has reduced by four fold since 2003, reflecting a change in lifestyle preferences of the younger physician cohort. Of the physicians reporting a preference for early retirement, anesthesiology (general), emergency care, family practice, and obstetrics and gynecology (general) are the top four specialties. While this increase in the number of young physicians choosing to retire early indicates a shift in their life-style preferences, the realty of student loans or the difficulty of saving for retirement might change the outcomes.

[5] These 83 physicians comprise 4% of all Utah physicians under age 45. For the 2003 data, the 249 physicians comprise 15% of all Utah physicians under age 45.

Figure 8: Planned Retirement Age vs. Current Age of Utah Physicians, 2010



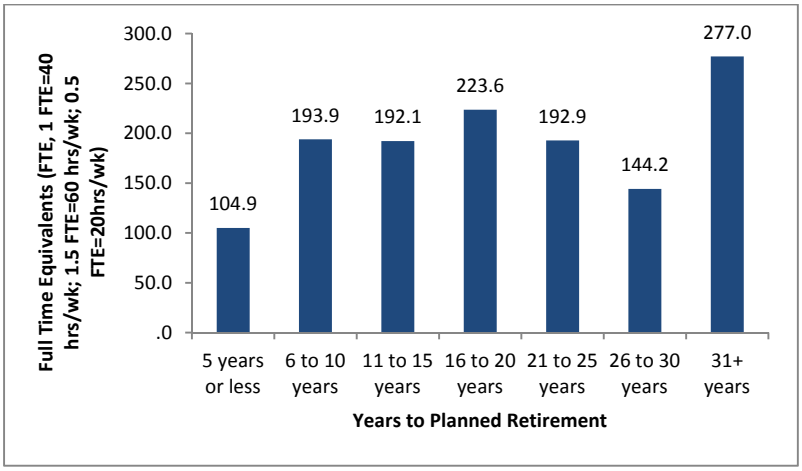
Given the economic downturn of recent years, the physicians were asked if the economy had any impact on their retirement plans. While 41.2% (2,470) of all physicians said that the economy had an impact on their retirement plans, a higher percent (58.2%, 1001) of physicians who are aged 55 or older (1720) reported an impact on their retirement plans. Two percent (28) of this group suggested they will speed up their retirement due to the recession, while 48% (833) suggested delaying retirement.

In our previous report, we reported that most of the physicians who made plans to retire within five years from 1998 had retired by 2003. This has changed significantly in the present. In 2003, 535 physicians reported that they planned on retiring within the next five years. Of these, 94.0% (503) were 50 years or older. In 2010, about 44% (221) of these 503 physicians continue to provide services in Utah. Of these 221 physicians still active in Utah, 134 (60.6%) reported that the recent recession has impacted their retirement plans. 44.1% of these 134 physicians work full time (40 hours or more per week), 28% work 20-40 hours per week, and 21.3% work less than 20 hours per week.

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 2010, 2,812 physicians (46.9%) reported that they would eventually reduce their work hours, with over 30% (875) indicating that they would work 20 hours or less per week after the reduction. Based on self-reported data, the reduction in work hours by these physicians equates to an average annual loss of approximately 30 total hour FTEs[6] per year over the next ten years. (See Figure 9) It should be noted that this estimate is based on the assumption that all physicians who reported plans to reduce work hours will actually do so.

[6] Total Hour FTEs are calculated as follows: 60 hours/week=1.5 FTE; 40 hours/week=1 FTE; 20 hours/week=0.5FTE

Figure 9: Loss in FTEs Due to Physician Reduction in Work Hours Prior to Retirement, Utah, 2010



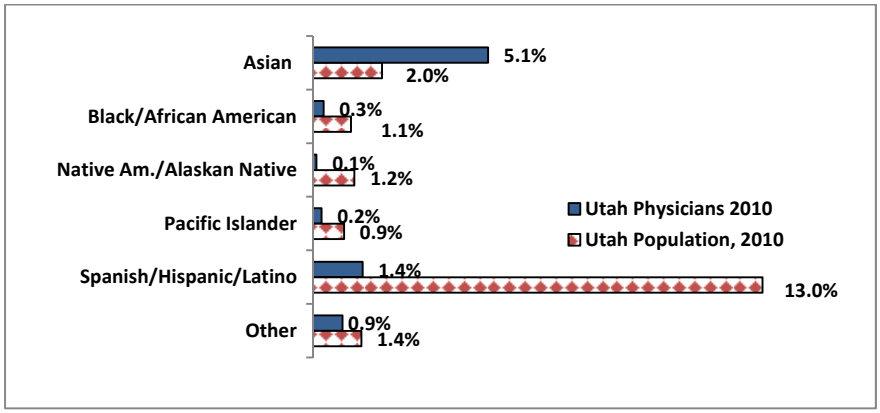
RACE

Despite improving since 1998, the racial and ethnic composition of the physician workforce continues to lag behind the growing diversity of the state. About 92% of the physicians in Utah are White/Caucasian compared to 80.4% of the population. Asians are the only group of minorities to have proportionately adequate representation in the physician workforce. In fact, the percentage of Asian physicians is more than twice the percentage of Asian people in Utah. In comparison, the percentage of Hispanic physicians is one-tenth of the percentage of the Hispanic population. This has deteriorated from a one-sixth ratio in 2003. Similar disproportions are exhibited among the other minority populations (Figure 10).

Table 3: Utah Physician and Population Race Distribution, 1998, 2003, and 2010

	1998	2003	2010
White Physicians	94.8%	93.2%	91.7%
Minority Physicians	5.2%	6.8%	8.3%
White Population	91.1%	86.9%	80.4%
Minority Population	8.9%	13.1%	19.6%

Figure 10: Comparison of Minority Physicians to Minority Populations in Utah, 2010



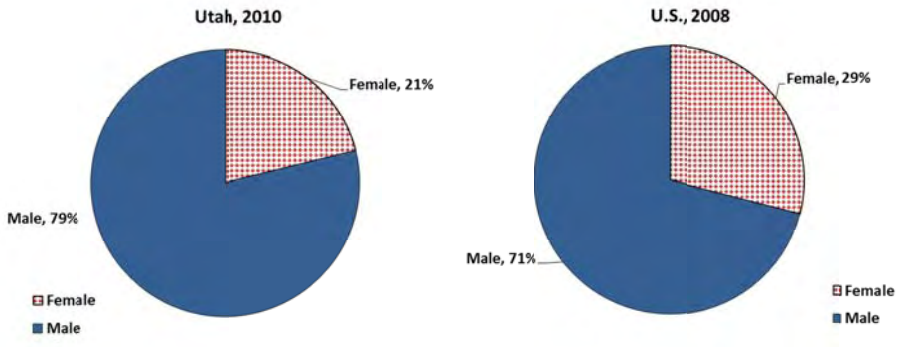
Concerns over the need to increase diversity in the physician workforce have been addressed on many levels. Most findings show that a growth in the minorities among healthcare workforce translates to an increase in medical access for underserved populations (COGME, 1998). Although race may not be the 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 healthcare provider (Stinson & Thurston, 2002).

GENDER

The ratio of male-to-female providers in Utah is somewhat similar to the national physician gender distribution in that there are significantly more males practicing medicine than females. In 2010, 21% of all Utah physicians (including residents and fellows) were female compared to 18% in 2003. Nationally, 29% of the workforce is female. The gender distribution of physicians in training programs (residency and fellowship programs) is significantly different from that of practicing physicians in Utah. In 2010, 37% of all survey respondents who are trainees (residents or fellows) are female compared to 20% of all practicing physicians.

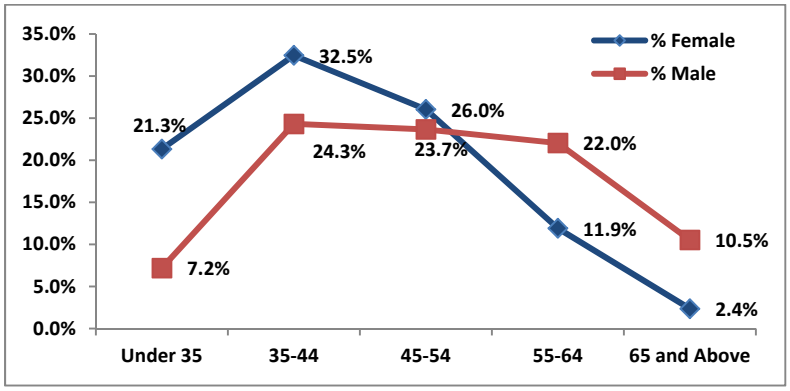
The increasing number of female physicians in Utah (from 18% in 2003 to 21% in 2010) is consistent with national trends. The American Medical Association reports a steady increase in the number of female physicians across the nation. Nationally, the percentage of female physicians has grown from 11.6% in 1980 to 29% in 2008. A higher percent of female trainees (residents and fellows) also suggest a continued growth in the female workforce.

Figure 11: Physician Gender Distribution, Utah, 2010 vs. U.S., 2008



Fifty-four percent of the female physicians in Utah are under the age of 44, whereas only 32% of male physicians belong to this age cohort. The late entrance of females into medicine helps explain the variance in age among male and female physicians. 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 over time.

Figure 12: Utah Physician Age Distribution, by Gender, 2010



On average, a female physician in Utah works approximately 8.7%[7] fewer hours than her male counterpart. (Table 4) When physicians working at least 40 hours or more per week were considered, females work fewer hours across many specialties. As medicine moves towards gender equilibrium, differences between male and female practice patterns as well as specialty choices will play an even greater role on the overall workforce. It will be important to monitor and quantify gender based differences in work hours, and practice characteristics, and their effects on the capacity of Utah's workforce.

Table 4: Utah Physician Work Hours per Week by Gender, 2010

Gender	Mean (SD)	Median
All Physicians	50.4 (17.2)	50.0
Male	51.2(17.0)	50.0
Female	47.1(17.3)	50.0

Lately, shifts in medical school applicant and matriculant gender distributions seem to alter this trend of an increasing percentage of females in the physician workforce. The percentage of female medical school (allopathic) applicants and matriculants in the nation has seen a steady growth until 2003. In 2003, the Association of American Medical Colleges (AAMC) reported that for the first time ever, the percentage of female medical school applicants (50.8%) exceeded the percentage of male applicants (49.2%). Since 2003, the nation and Utah have seen a steady decline in this statistic (see Table 5, Figure 13, and Figure 14 below). Currently, the percentage of female applicants has dropped to 47.3% (AAMC, 2010).

Table 5: Gender Distribution of Graduates at the University of Utah School of Medicine, 2003-2010

Year	% Male	% Female
2003	57.4%	42.6%
2004	63.8%	36.2%
2005	63.1%	36.9%
2006	63.1%	36.9%
2007	68.9%	31.1%
2008	64.1%	35.9%
2009	63.9%	36.1%
2010	68.7%	31.3%

[7] The difference in mean work hours per week by gender is statistically significant at the 95% confidence level.

Figure 13: Percent Female Applicants and Matriculants to U.S. Allopathic Medical Schools, 1999-2010

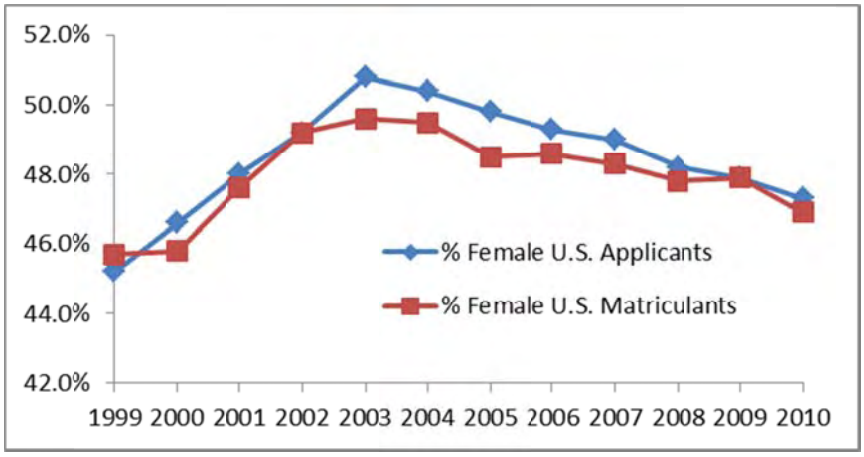
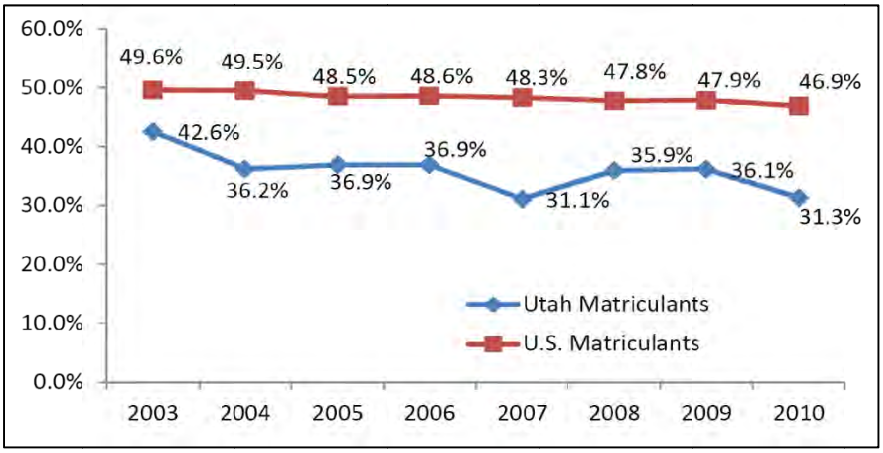


Figure 14: Percent Female Matriculants to U.S. and Utah Allopathic Medical Schools, 2003-2010



In 2010, 47% of applicants to residency programs across the nation were female. Obstetrics and Gynecology, Pediatrics/Physical Medicine and Rehabilitation, Internal Medicine/Dermatology, Dermatology, and Pediatrics are the top five specialties to which more than 60% female candidates have applied. (American Association of Medical Colleges (AAMC), 2010) The new declining female applicants and matriculant trend will begin to be reflected in the workforce in the near future and needs to be watched.

PRACTICE CHARACTERISTICS

PRACTICE SETTING

Physicians in Utah are employed in a variety of practice settings. Current data show that a majority of the physicians either practice in a hospital setting or organize into group practices to deliver medical service. There seems to be a marked shift away from group practices and into hospital-based practices since 2003. This could be a result of the recent economic downturn or a result of the changing lifestyle choices of physicians. In 2010, 29% of all Utah physicians reported a secondary practice setting. This proportion has remained the same since 2003. The average age of physicians with a secondary practice setting in 2010 is 49 (SD=10.97).

Table 6: Primary and Secondary Practice Settings of Utah Physicians, 2003 vs. 2010

Practice Settings	Primary Setting		Secondary Setting	
	2003	2010	2003	2010
Physicians with secondary practice setting	NA	NA	28.4%	29.0%
Hospital	22.4%	39.9%	45.9%	55.3%
Group Practice	48.9%	32.4%	26.4%	12.1%
Solo Practice	17.0%	16.8%	7.5%	5.8%
Free Standing Health Clinic/Center	4.0%	4.2%	6.3%	6.9%
VA Hospital	NA	1.3%	NA	10.2%
Health Dept. (state/local)	0.9%	1.0%	2.5%	1.4%
FQHC	NA	0.5%	NA	NR
Nursing Home	0.1%	0.2%	1.8%	2.1%
Home Health	NR	NR	NR	0.5%
Other	6.7%	3.6%	9.4%	5.6%

*NR: Non Reportable, 5 or fewer responses

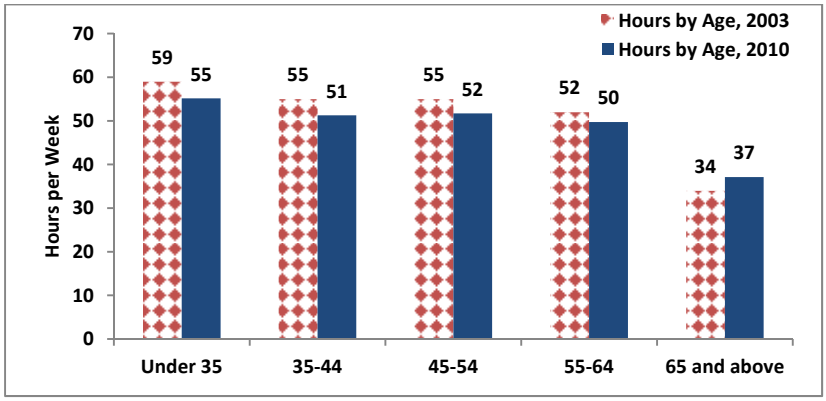
WORK HOURS

On average, a physician in Utah (including residents and fellows) works 50.4 hours per week (SD=17.2, Median=50). According to the 2003 survey, physicians in Utah work an average of 53.1 hours per week (SD=18.3, Median=52). This decrease in average hours per week is also evident when viewed by age cohorts. Except for physicians aged 65 or older, all other age groups have shown a decline in the average number of hours worked per week (see Figure 15). When residents and fellows are separated from physicians, average hours per week for a physician in Utah drops down to 49.7/wk (SD=16.93; Median=50). For trainees (residents and fellows) in the state, the average hours are 61.6 per week (SD=12.2; Median=60).

However, when examined by gender and specialty, there were marked differences between the number of hours each group worked during the week. While male physicians work an average of 51.2 hours per week (SD=17.0; Median=50), female physicians in Utah work an average of 47.1 hours per week (SD=17.3; Median=50). In other words, female physicians work an average of 8.7% less than their male counterparts.[8]

[8] Statistically significant difference at the 95% confidence level

Figure 15: Average Physician Work Hours per Week by Age, Utah, 2003 vs. 2010



Differences in work hours among the various specialties are even greater. Physicians specializing in critical care medicine, general surgery, geriatrics, infectious diseases, internal medicine and pediatrics, pathology, child and adolescent psychiatry, hospice and palliative medicine and in psychiatry subspecialties have reported increased average weekly hours compared to their hours in 2003. All other specialty physicians reported lower average hours than in 2003.

Table 7: Average Utah Physician Work Hours per Week by Specialty, 2003 vs. 2010

Specialty	2003 Mean	2010 Mean	% Change	Specialty	2003 Mean	2010 Mean	% Change
Critical Care Medicine	67	69	2.50%	Pathology (General)	45	50	12.20%
Surgery-Cardio-Thoracic	87	65	-24.90%	Endocrinology and Metabolism	59	50	-14.80%
Pulmonary Disease/CCM	67	64	-3.80%	Gastroenterology	57	50	-12.00%
Surgery (General)	61	62	1.10%	Family Medicine	52	50	-3.50%
Cardiology	60	58	-2.80%	Anesthesiology-Pain Management	61	50	-18.50%
Surgery Subspecialties	64	58	-8.90%	Internal Medicine (General)	52	49	-5.00%
Obstetrics/Gynecology Subspecialties	65	57	-11.80%	Radiology (Diagnostic)	52	49	-5.20%
Geriatrics	52	57	9.50%	Radiology (Therapeutic)	57	49	-13.60%
Obstetrics/Gynecology (General)	57	57	-0.90%	Psychiatry-Child and Adolescent	45	49	9.40%
Infectious Diseases	51	56	10.60%	Pathology Subspecialties	53	47	-10.70%
Pediatrics Subspecialties	60	55	-7.70%	Physical Medicine and Rehabilitation	49	47	-3.80%
Surgery-Orthopedic	59	55	-7.10%	Pediatrics (General)	48	47	-2.10%
Neurology	60	54	-9.20%	Psychiatry	45	45	0.20%
Hematology/Oncology	58	54	-6.70%	Hospice and Palliative Medicine	43	45	4.70%
Internal Medicine and Pediatrics	53	54	1.30%	Ophthalmology	47	45	-5.00%
Nephrology	55	54	-2.70%	Rheumatology	58	44	-23.70%
Urology	56	53	-4.90%	Dermatology	45	42	-7.20%
Anesthesiology Subspecialties	53	53	-0.20%	Preventive Medicine/Public Health/Occu	43	41	-3.70%
Otolaryngology	56	52	-7.10%	Emergency Care	44	41	-6.60%
Anesthesiology (General)	57	52	-9.10%	Psychiatry Subspecialties	35	40	15.40%
Surgery-Plastic	61	51	-16.70%	Allergy and Immunology	43	40	-6.50%

INCOME

Table 8: Physician Income Cohorts, 2010

	Primary Care	Specialty Care
Median	$133,333	$177,778
Mean	$144,821	$203,568
SD	$91,523	$176,547
$50,000 or Less	9.3%	10.9%
$50,001-$100,000	13.7%	8.2%
$100,001-$150,000	39.1%	21.6%
$150,001-$200,000	22.9%	18.8%
$200,001-$250,000	9.1%	13.5%
$250,001-$300,000	3.2%	11.3%
$300,000+	2.6%	15.7%

Median income, adjusted for hours worked, for physicians in Utah is $133,333 for primary care and about $177,778 for specialists, though income varied significantly by specialty. This has increased from $125,000 and $170,000 respectively in 2003. When trainees (residents and fellows) were filtered out, the median income was $146,131 for primary care and $186,667 for specialty care. With obstetrics/ gynecology included in primary care, the median incomes are $153,021 for primary care and $187,500 for specialty care.

The Medical Group Management Association (MGMA)[9] reports the national median compensation for primary care as $202,392[10] and for specialty care as $356,885[10]. (Medical Group Management Association, 2011, p. 14). The MGMA reports a median income of $200,457 for primary care physicians and $360,603 for specialty care physicians in the Western Region. (Medical Group Management Association, 2011, p. 4) Based on the MGMA data, it is clear that Utah physicians typically make less than their national and regional counterparts. If this is the case, 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 physician reimbursement in further detail to determine its potential effect on the future of the Utah physician workforce.

Table 9: Percentage Change in Income for Selected Specialties, 2003-2010

Primary Care			**18.0%**
Pediatric/Adolescent Medicine			15.5%
Internal Medicine			13.4%
Family Practice (without OB)			10.3%
Specialty Care			**10.7%**
Anesthesiology	11.5%	Ophthalmology	11.2%
Cardiology: Invasive	9.5%	Orthopedic Surgery	15.3%
Cardiology: Non-Invasive	17.4%	Otorhinolaryngology	14.2%
Dermatology	23.6%	Psychiatry	4.2%
Emergency Medicine	10.9%	Pulmonary Medicine	17.3%
Gastroenterology	14.2%	Radiology: Diagnostic	5.5%
Hematology/Oncology	6.6%	Surgery General	12.4%
Neurology	13.6%	Urology	4.2%
Obstetrics/Gynecology	3.6%		

(Medical Group Management Association, 2011, p. 14)

[9] This data 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.
[10] MGMA does not include obstetrics/gynecology in primary care.

Table 10: Median Physician Salary by Specialty, Utah vs. U.S., 2010

Primary Care	Utah (UMEC)	Western Region (MGMA)	US (MGMA)
Family Medicine	$133,333	$193,638*	$189,402
Internal Medicine (General)	$128,000	$208,465	$205,379
Obstetrics/Gynecology (General)	$166,667	$290,007	$281,190
Pediatrics (General)	$133,333	$190,521	$192,148
Specialty Care			
Allergy and Immunology	$228,571	$249,832	NA
Anesthesiology (General)	$200,000	$364,116	$407,292
Anesthesiology Subspecialties	$228,788	NA	NA
Anesthesiology-Pain Manageme	$250,000	$470,735	NA
Cardiology	$200,000	$448,630*	$466,367*
Critical Care Medicine	$171,429	$242,750	NA
Dermatology	$228,571	$422,235	$430,874
Emergency Care	$200,000	$249,162	$277,297
Endocrinology and Metabolism	$80,000	$220,000	NA
Gastroenterology	$266,667	$446,479	$463,955
Geriatrics	$110,490	$184,570	NA
Hematology/Oncology	$171,389	$385,576	$382,934
Hospice and Palliative Medicine	$122,727	NA	NA
Infectious Diseases	$86,970	$201,146	NA
Internal Medicine and Pediatrics	$120,000	NA	NA
Nephrology	$147,727	$273,308	NA
Neurology	$133,333	$238,287	$249,867
Obstetrics/Gynecology Subspeci	$160,000	$344,973*	NA

Specialty Care (Continued)	Utah (UMEC)	Western Region (MGMA)	US (MGMA)
Ophthalmology	$180,000	$302,230	$330,784
Otolaryngology	$180,000	$354,112	$370,631*
Pathology (General)	$160,000	$387,028	NA
Pathology Subspecialties	$153,111	NA	NA
Pediatrics Subspecialties	$122,667	$231,218	NA
Physical Medicine and Rehabilitation	$153,846	$259,704	NA
Preventive Med/Pub. Health/Occupati	$154,286	$207,438*	NA
Psychiatry	$146,061	$220,886	$200,694
Psychiatry Subspecialties	$151,723	NA	NA
Psychiatry-Child and Adolescent	$128,000	$200,694	NA
Pulmonary Disease/CCM	$142,857	$322,941*	$300,019
Radiology (Diagnostic)	$234,286	$444,901*	$471,253
Radiology (Therapeutic)	$292,857	NA	NA
Rheumatology	$147,727	$220,331	NA
Sports Medicine	$156,667	$237,840	NA
Surgery (General)	$184,258	$360,889	$343,958
Surgery Subspecialties	$215,385	NA	NA
Surgery-Cardio-Thoracic	$344,779	$514,695*	NA
Surgery-Orthopedic	$240,000	$476,471	$514,659
Surgery-Plastic	$200,000	$405,128	NA
Urgent Care	$200,000	$230,593	NA
Urology	$236,667	$347,262	$372,455

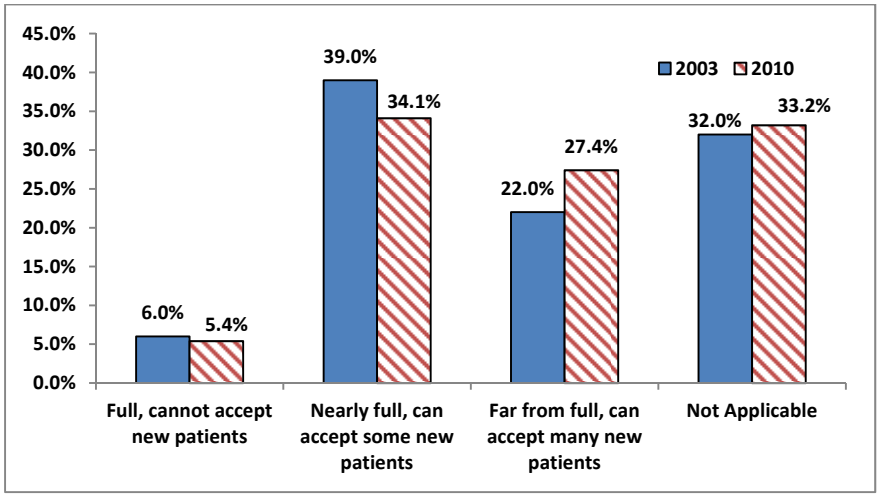
(Medical Group Management Association, 2011, pp. 44-45)

*Average of the income for specialties for which MGMA published more than one category was reported.

PRACTICE STATUS

According to the 2010 survey, 5.4% of Utah physicians have practices that are full and cannot accept any new patients. Since 2003, the percent of physicians reporting a full or nearly full practice has reduced. (See Figure 16)

Figure 16: Practice Status of Utah Physicians, 2003 vs. 2010



On the other hand, 50% or more of all primary care specialists except pediatricians have reported a full or nearly full practice. 48.3% of pediatricians and 30.2% of general surgeons have reported a full or nearly full practice in 2010. (See Table 11)

Table 11: Practice Status for Primary Care Specialties and General Surgery, 2010

	Internal Medicine	Family Medicine	Pediatrics	Obstetrics & Gynecology	General Surgery
Full, cannot accept new patients	13.2%	10.5%	4.3%	5.3%	1.8%
Nearly full, can accept some new patients	36.7%	49.0%	44.0%	51.3%	28.4%
Far from full, can accept many new patients	13.9%	28.3%	28.2%	34.4%	40.4%
Not Applicable	36.3%	12.2%	23.5%	9.0%	29.4%

Specialties with more than 10% of its physicians reporting a full practice include: psychiatry (adult: 17.2%, child & adolescent: 20.6%, and other subspecialties: 45.5%), geriatrics (33.3%), sleep medicine (25%), endocrinology and metabolism (13.3%), general internal medicine (13.2%), and family practice (10.5%). Specialties in which 50% or more physicians reported a nearly full practice include: sleep medicine (75%), rheumatology (73.3%), internal medicine and pediatrics (57.7%), pulmonary disease/CCM (55.6%), obstetrics & gynecology (51.3%), geriatrics (50%), urology (50%) and psychiatry (50%).

PATIENT WAIT TIME

The average wait times for new and established patients to see a Utah physician have decreased since 2003, suggesting that the physician workforce situation has improved since 2003. However, this varies by specialty – primary care specialties have not experienced the same decline in wait times as the other specialties. On the other hand, non-primary care specialties have typically experienced longer wait times than primary care specialties.

Table 12: Number of Days Patients Must Wait for an Appointment, Utah 2003 vs. 2010

	All Physicians		Primary Care		Specialty Care	
Type of Patient	2003	2010	2003	2010	2003	2010
New Patient	18.0	13.8	13.0	12.5	21.0	14.7
Established Patient	11.0	8.4	6.0	7.3	13.0	9.2

The three specialties with the longest wait times for new patients include: rheumatology (75 days), neurology (33 days), and gastroenterology (31 days). In addition to these three, there is a 27-day waiting period for a new patient to see a physician in pediatric subspecialties, child and adolescent psychiatry, and pulmonary disease/CCM, and a 26-day wait for dermatology, and obstetrics/gynecology physicians. The average wait time for new patients to see an internal medicine physician is 18.7 days (SD=26, Median=10), while the wait for a general pediatrician is 8 days (SD=13.3, Median=2) and a family medicine physician is 7.2 days (SD=14.3, Median=2).

The specialties with the longest wait times for established patients include: obstetrics/gynecology and sleep medicine (22 days), endocrinology/metabolism (21 days), gastroenterology and neurology (20 days), pediatric subspecialties (17 days), and rheumatology (16 days). The

average wait time for established patients to see an internal medicine physician is 8 days, a general pediatrician is 5 days and a family medicine physician is 3 days. (See Table 13)

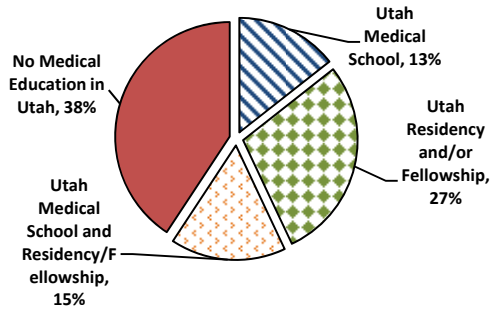
Table 13: Average New and Established Patient Wait Times by Specialty, 2003 vs. 2010

New Patient Wait Times in Days, 2003 vs. 2010			
Primary Specialty	Avg. 2003	Avg. 2010	% Change
Gastroenterology	14.5	31	114%
Pulmonary Disease/CCM	15.3	27	76%
Surgery-Cardio-Thoracic	4.2	6	44%
Radiology (Therapeutic)	4.1	5	22%
Psychiatry-Child and Adolescent	22.5	27	20%
Surgery-Plastic	8.1	9	12%
Preventive Medicine/Public Health/Occupational Medicine	3.6	4	12%
Rheumatology	69.7	75	8%
Radiology (Diagnostic)	2.8	3	6%
Family Medicine	6.7	7	5%
Infectious Diseases	17.3	18	4%
Surgery (General)	7	7	0%
Psychiatry	24.7	24	-3%
Obstetrics/Gynecology (General)	27.6	26	-6%
Physical Medicine and Rehabilitation	16	15	-6%
Obstetrics/Gynecology Subspecialtie	19.7	16	-19%
Urology	14.2	11	-23%
Cardiology	13.5	10	-26%
Internal Medicine (General)	25.6	19	-26%
Internal Medicine and Pediatrics	27.2	20	-26%
Dermatology	36	26	-28%
Pediatrics Subspecialties	38.1	27	-29%
Hematology/Oncology	10	7	-30%
Surgery-Orthopedic	17.3	11	-36%
Neurology	53.3	33	-38%
Allergy and Immunology	19.4	12	-38%
Otolaryngology	15.5	9	-42%
Pediatrics (General)	15.3	8	-48%
Endocrinology and Metabolism	40	19	-53%
Ophthalmology	21.2	10	-53%
Nephrology	26.3	11	-58%
Surgery Subspecialties	24.2	10	-59%
Anesthesiology (General)	30.9	4	-87%
Anesthesiology-Pain Management	97.2	11	-89%

Established Patient Wait Times in Days, 2003 vs. 2010			
Primary Specialty	Avg. 2003	Avg. 2010	% Change
Gastroenterology	4.8	20	314%
Pulmonary Disease/CCM	6.8	10	47%
Surgery (General)	4.8	6	26%
Surgery-Cardio-Thoracic	4.2	5	20%
Hematology/Oncology	4.4	5	13%
Psychiatry-Child and Adolescent	10.8	12	11%
Cardiology	9.1	10	10%
Obstetrics/Gynecology (General)	20.2	22	9%
Physical Medicine and Rehabilitation	8.6	9	5%
Psychiatry	12.2	12	-2%
Infectious Diseases	12.3	12	-2%
Family Medicine	3.1	3	-3%
Radiology (Therapeutic)	3.2	3	-5%
Radiology (Diagnostic)	2.2	2	-8%
Surgery-Plastic	5.5	5	-9%
Otolaryngology	9.2	8	-13%
Surgery-Orthopedic	9.3	8	-14%
Endocrinology and Metabolism	24.6	21	-15%
Pediatrics Subspecialties	20.1	17	-15%
Preventive Medicine/Public Health/Occupational Medicine	3.8	3	-21%
Obstetrics/Gynecology Subspecialties	18.2	14	-23%
Rheumatology	22.6	16	-29%
Urology	16.2	11	-32%
Neurology	29.7	20	-33%
Ophthalmology	15.1	9	-40%
Internal Medicine (General)	13.7	8	-42%
Dermatology	25.9	15	-42%
Allergy and Immunology	10.6	5	-53%
Pediatrics (General)	11.1	5	-55%
Surgery Subspecialties	15.8	7	-56%
Internal Medicine and Pediatrics	11.6	5	-57%
Anesthesiology-Pain Management	14.8	6	-59%
Anesthesiology (General)	11.9	4	-66%
Nephrology	26.8	8	-70%

UTAH TIES –MEDICAL EDUCATION & UPBRINING

Figure 17: Educational Background of Utah Physicians, 2010[11]



Many factors influence a physician's choice to practice in a given area, but the strongest predictor of eventual practice location is the location of the student's graduate medical education (GME). A 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". (National Conference of State Legislatures, 2003) This inclination holds true in Utah. According to the 2010 survey, 55% of all Utah physicians have some form of medical education ties to Utah, and 42% of Utah physicians have completed at least one residency and/or fellowship in the state. Further, review of the UMEC data showed that 20% 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. This was 26% in 2003. About 11% of all Utah physicians have reported a Utah upbringing and no other medical education ties to Utah. Another 27% have reported both upbringing **and** medical education ties to Utah.

Sixty-six percent of the physicians practicing in Utah have had some previous contact with the state, either through upbringing, medical education, or residency training compared to 86% in 2003. This might be a good sign for Utah in that it is attracting more physicians to the state with no ties to the state. It also suggests that Utah is increasingly reliant on recruiting from the national pool, which could become problematic if demand for physicians increases nationwide. Factors attracting these physicians to the state need to be studied and reinforced to maintain and expand this supply source. **Table 14** below breaks the information further by upbringing and the type of medical education ties to Utah.

Table 14: Background Data on Physicians Practicing in Utah, 2010

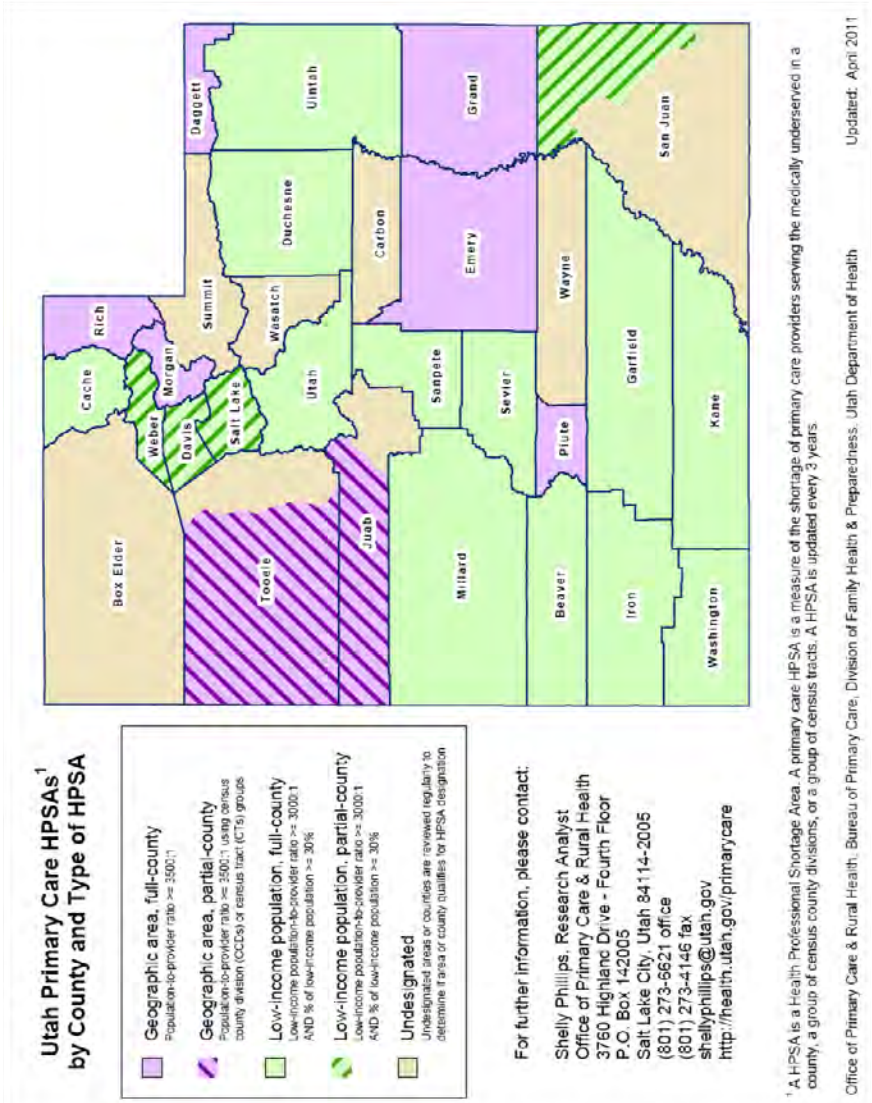
No. of Utah Factors	Utah Upbringing	Utah Medical School	Utah Residency and/Fellowship	Number of Physicians	Percent in Utah Practice
0	No	No	No	1,620	27%
1	Yes	No	No	662	11%
	No	Yes	No	144	2%
	No	No	Yes	1,214	20%
2	Yes	Yes	No	662	11%
	Yes	No	Yes	389	6%
	No	Yes	Yes	227	4%
3	Yes	Yes	Yes	685	11%
Unknown				393	7%
Total				5,996	100%

[11] Each category includes physicians with and without Utah upbringing.

GEOGRAPHIC DISTRIBUTION

As of April 2010, the Utah Office of Primary Care and Rural Health reported that 23 of Utah's 29 counties still had some form of Primary Care Health Professional Shortage Area (HPSA) designation given by 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.

Figure 18: Utah Primary Care Health Profession Shortage Areas



The shortage characteristics outlined by HRSA are seen most prevalently in rural Utah. Although 15% of the state's population resides in these regions, only 7% (427) of Utah

physicians provide services in these areas (497.7 FTE)[12]. The situation seems a little better when only primary care physicians practicing in a rural area are considered. About 12% (245) of all primary care physicians (2,136) in the state work in a rural county. These primary care physicians reported work hours equivalent to 313.6 FTEs[12], or 1.4 FTE[12] per person, compared to 1.2 FTE[12] per person reporting primary care practice in an urban county.

Figure 19: Rural Utah Physicians & Rural Utah Population

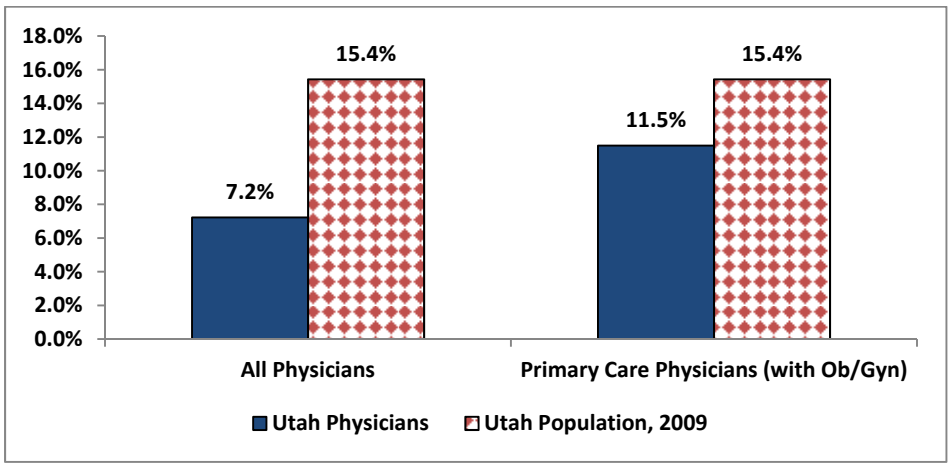
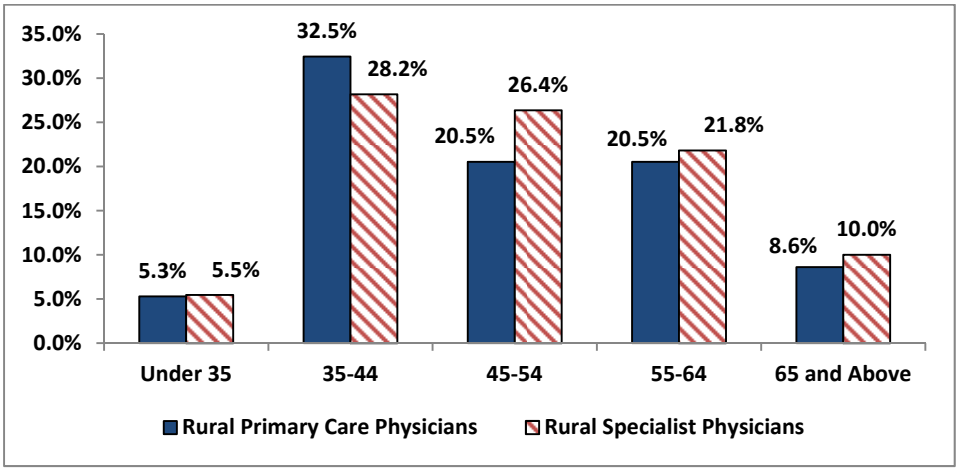


Figure 20: Age Distribution of Rural Utah Physicians – Primary vs. Specialty Care



About 31% (130) of rural physicians are 55 years or older, and are likely to retire within the next ten years. While replacing 13 physicians annually does not sound like a difficult task, attracting them to a rural practice is considered a herculean task.

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 2010 survey data, only 20% 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 inhibited in their access to the

[12] 60 hours/week=1.5 FTE; 40 hours/week=1 FTE; 20 hours/week=0.5FTE

latest medical technologies, while others are concerned about family life, or reimbursement of educational debt, all of which can contribute to a decision to choose urban/suburban over rural practice. On the other hand, a rural area might not have the patient base required to sustain certain specialist practices. Therefore, more efforts are being made for attracting primary care providers to rural areas.

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 extending for additional financial assistance. The following is a list of the programs administered by the Office:

1. Utah Healthcare Workforce Financial Assistance Program: A 100% state funded initiative that provides scholarships and student loan repayment assistance.
2. State Matching Program with the National Health Service Corps: 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.

Due to the prevailing budget constraints, funding for Utah Healthcare Workforce Financial Assistance program and the State Matching Program with the National Health Service Corps is no longer available. According to the Association of Staff Physician Recruiters (ASPR), the average cost per physician search for a non-urban area of intermediate population size is in the range of $24,643-$26,571. This amount could be higher for a rural recruiter due to issues like lack of exposure or professional isolation, which are unique to rural areas. (Kashnig C., 2003) While recruiting a physician is expensive, the costs of not being able to recruit a physician are even higher. These losses come in the form of loss of patients to other hospitals and lack of access to medical care, increased workload for other physicians and medical staff, changing referral patterns and the threat of turnover among physicians not properly supported by the proper mix of specialists, etc. (Broxterman & Smith, 2003)

Given these costs to the community, the need to replace about 31% of the rural physician workforce in the next ten years and the difficulties in attracting new physicians to rural areas, the UMEC recommends that the State should not only replace funding, but should also expand the Utah Healthcare Workforce Financial Assistance Program, and the State Matching Program with the National Health Service Corps. In addition to the scholarship and loan repayment programs, the Office of Primary Care and Rural Health 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) per year to fill vacancies at healthcare 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 88 IMGs and retained 40 of them in the state. Thirty percent of these

physicians work in rural counties while the rest are employed in urban Utah (Cache, Salt Lake, Utah, Washington, and Weber counties).

Table15: Distribution of IMG Physicians in Utah, by County and Specialty, 2010

Rural	#
Beaver	1
Carbon	2
Duchesne	1
Kane	1
San Juan	2
Tooele	4
Uintah	1
Subtotal	12
Urban	**#**
Davis	1
Salt Lake	14
Utah	2
Washington	9
Weber	2
Subtotal	28
Utah	40

Specialty	#
Anesthesiology	3
Geriatric	1
Hematology	1
Internal	30
Pediatric	3
Psychiatry	1
Radiology	1
Total	40

Source: Utah Office of Primary Care and Rural Health

1. Internal medicine physicians were hired based on their sub-specialty.

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 may increase the likelihood of physicians staying in rural areas.

The recruitment of rural physicians begins with candidate selection. "Two of the strongest predictors that a physician will choose rural practice are specialty and background: Family physicians are more likely than those with less general training to go into rural practice, and physicians with rural backgrounds are more likely to locate in rural areas than those with urban backgrounds." (American Academy of Family Physicians, 2012) 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 62% of all rural physicians reported a rural upbringing. In addition to a rural background, research suggests that those who indicated that they felt better prepared both medically and socially for practice in a rural area stayed longer than those who felt unprepared or who were initially unaware of the special characteristics of rural practice. Being prepared for rural life in the social sense seems more important in this regard than being medically trained for rural practice. (Pathman, Steiner, & Jones, 1999) Those who felt prepared for small town living were over twice as likely as others

to remain in a rural area for at least six years. (Cutchin, Physician retention in rural communities: the perspective of experiential place integration, 1997) (Cutchin, Norton, & Quan, 1994)

Rural clinical rotation opportunities and rural training tracks are effective means to address the above mentioned factors influencing a physician's choice to practice in rural areas. In 2005, the UMEC obtained a $300,000 legislative annual appropriation for ten years to develop and support rural GME. To encourage residents to set up practice in rural areas, the UMEC created rural residency training opportunities in obstetrics/gynecology, pathology, pediatrics, psychiatry, and surgery and increased opportunities in family medicine over the past two years. Ten communities outside of the Wasatch Front participate in the rural training established by the Council, including Cedar City, Heber, Logan, Manti, Moab, Montezuma Creek, Nephi, Price, St. George, and Vernal.

Although the types of individuals most suitable for rural practice have been identified, the actual task of harnessing rural students is a difficult challenge. Rural health advocacy groups suggest that limited exposure to health professions and the restricted number of educational resources in rural areas are some of the factors that need to be tackled to address this challenge.

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 a practice location. Approaches that have been used to address the above listed factors 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 might make rural communities more attractive to physicians exploring the option of rural practice.

Table 16: Physician Distribution by Local Health District, Utah, 2010

Local Health District	All Physicians	Percent	Primary Care Physicians	Percent
Bear River	242	4.10%	94	4.40%
Central	65	1.20%	52	2.40%
Davis	464	7.70%	230	10.80%
Salt Lake	2601	43.40%	897	42.00%
Southeastern	65	1.10%	32	1.50%
Southwest	339	5.60%	138	6.50%
Summit	73	1.20%	41	1.90%
Tooele	37	0.60%	18	0.80%
Tri-County	58	1.00%	26	1.20%
Utah	725	12.10%	289	13.50%
Wasatch	16	0.30%	15	0.70%
Weber-Morgan	365	6.10%	135	6.30%

Figure 21: State Local Health Districts, Utah

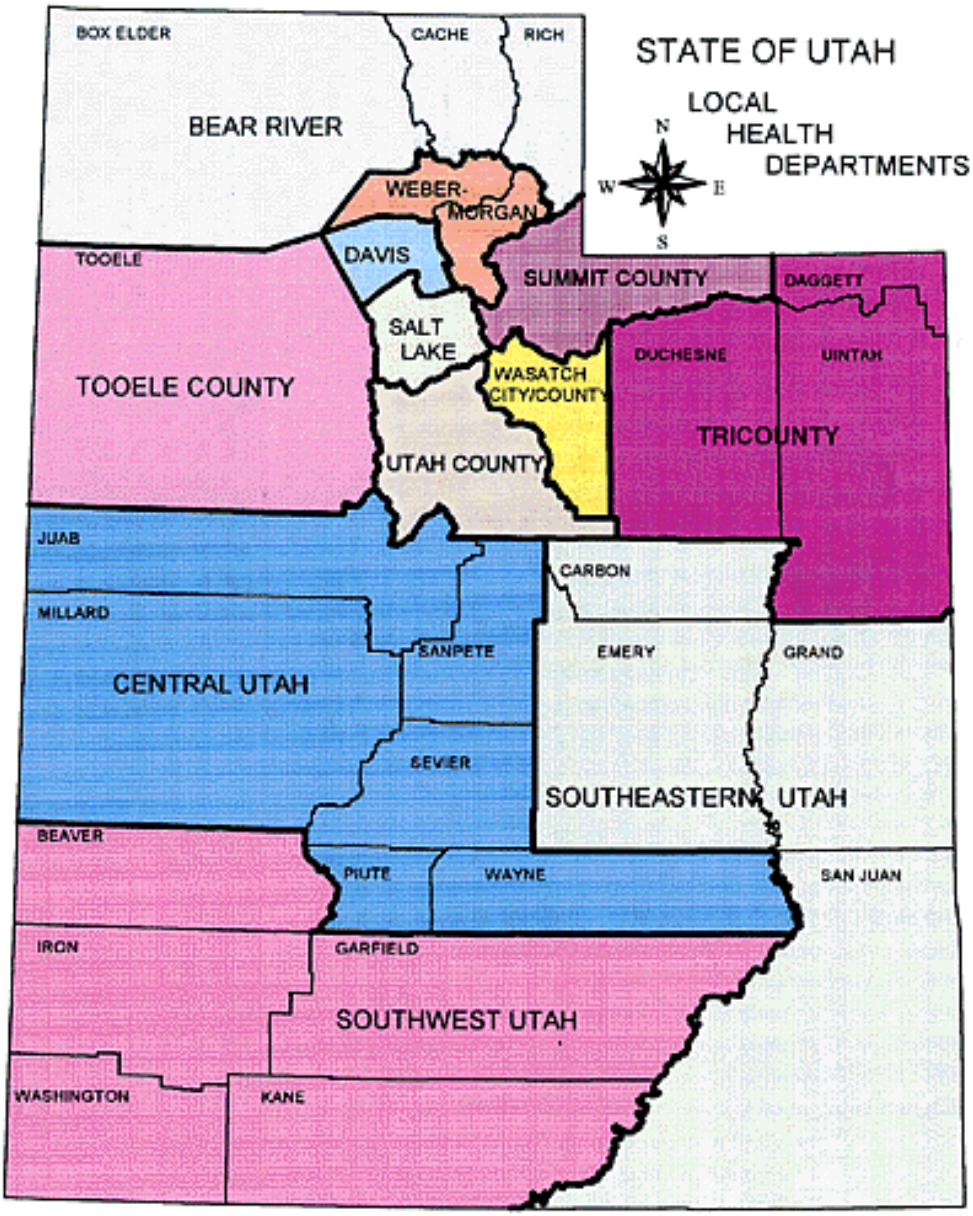


Table 17: Physician FTE Distribution by Local Health District, Utah, 2010

Local Health District (by primary practice location)	Physician Count	Mean Total Hours FTE*	Total Hours FTE*	Standardized FTE!
Bear River	242	1.2	295	225
Central	65	1.5	97	64
Davis	464	1.2	574	438
Salt Lake	2601	1.2	3213	2418
Southeastern	65	1.4	90	60
Southwest	339	1.3	427	316
Summit	73	1.1	78	63
Tooele	37	1.2	46	36
Tri-County	58	1.3	74	57
Utah	725	1.2	898	679
Wasatch	16	1.4	23	16
Weber-Morgan	365	1.2	450	346

*Total Hour FTE Calculation: 60 hrs/wk=1.5 FTE; 40 hrs/1k=1 FTE; 20 hrs/wk=0.5 FTE

!Standardized FTE Calculation: 40 or more hrs/wk=1 FTE; 20 hrs/wk=0.5 FTE

Table 18: Primary Care Physician FTE Distribution by Local Health District, Utah, 2010

Local Health District (by primary practice location)	Physician Count	Mean Total Hour FTE*	Total Hour FTE*	Standardized FTE!
Bear River	94	1.3	122	92
Central	52	1.5	80	51
Davis	230	1.3	292	219
Salt Lake	897	1.2	1080	825
Southeastern	32	1.7	55	30
Southwest	138	1.3	173	125
Summit	41	1.1	46	36
Tooele	18	1.3	23	17
Tri-County	26	1.3	34	26
Utah	289	1.2	360	273
Wasatch	15	1.4	21	14
Weber-Morgan	135	1.3	170	130
Out of State	159	1.4	215	149

*Total Hour FTE Calculation: 60 hrs/wk=1.5 FTE; 40 hrs/1k=1 FTE; 20 hrs/wk=0.5 FTE

!Standardized FTE Calculation: 40 or more hrs/wk=1 FTE; 20 hrs/wk=0.5 FTE

Table 19: Physician Distribution by County, Utah, 2010

County	Primary Practice Location		Secondary Practice Location		Total	
	Count of All Physicians	Count of Primary Care Physicians	Count of All Physicians	Count of Primary Care Physicians	Total Physicians	Total Primary Care Physicians
Beaver	6	6	5	NR	11	NR
Box Elder	45	21	6	NR	52	NR
Cache	195	73	19	NR	214	NR
Carbon	31	13	6	0	37	13
Davis	383	204	65	19	448	224
Duchesne	34	11	0	0	34	11
Emery	NR	NR	0	0	NR	NR
Garfield	5	NR	0	0	5	NR
Grand	19	10	NR	0	NR	10
Iron	47	29	5	NR	52	NR
Juab	11	8	NR	NR	NR	NR
Kane	NR	NR	NR	0	5	NR
Millard	8	8	0	0	8	8
Morgan	6	NR	0	0	6	3
Piute	NR	NR	0	0	NR	NR
Rich	NR	0	0	0	NR	0
Salt Lake	3280	1022	364	75	3644	1097
San Juan	10	5	6	5	16	10
Sanpete	29	24	5	NR	34	NR
Sevier	11	8	NR	NR	NR	NR
Summit	73	41	21	10	94	50
Tooele	37	18	8	0	45	18
Uintah	24	15	10	NR	34	NR
Utah	725	289	75	39	800	328
Wasatch	16	15	NR	0	NR	15
Washington	276	97	29	5	305	102
Wayne	NR	NR	0	0	NR	NR
Weber	440	157	44	16	484	174
Out of State	151	24	39	10	190	34
Total	**5876**	**2113**	**721**	**196**	**NA**	**NA**
Missing	120	23	5276	1939		
Total	**5996**	**2136**	**5996**	**2136**		

NR: Non Reportable due to less than 5 count in category

PROJECTED DEMAND & SUPPLY

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. Utah population grew by 2.4% in 2010, ranking third among the other states in the nation for population growth between 2000 and 2010. (Utah Governor's Office of Planning and Budget, 2011) It is estimated that Utah will continue to see a population growth rate higher than many states in the nation – both due to natural increase and in-migration. (Utah Governor's Office of Planning and Budget, 2011) To provide the same level of service to the population (and if the current healthcare system remains unchanged), Utah will need to add an average of 173 physicians to the workforce each year, in addition to replacing the physicians who are leaving the workforce due to reduced hours, retirement and other causes.[13]

The challenge of adding so many physicians is further complicated by age polarization within the population and the influence it has on the physicians who treat a high number of patients in certain age groups. While Utah will continue to have its high fertility rate, the expedited growth in the 65 and above age group is the one truly contributing to increased demand for physicians in the state. By 2025, the 65 and above segment of the population will increase by 85%. (Governor's Office of Planning and Budget, 2008) Healthcare utilization patterns in 2007-2008, reported by CDC, show that the number of physician office and hospital outpatient medical visits for people over the age of 65 has grown by 28% since 2001(from 5.8 per year to 7.4 per year). (Centers for Disease Control, p. Table 18)

Table 20: Physician Office and Hospital Outpatient Visit Rates per Person

Age	Visit Rate per Person per Year, U.S., 2007-2008	Visit Rate per Person per Year, Utah, 2003-2004
All ages	3.6	3.7
0-17 years	2.8	3.2
18-44 years	2.6	3.6 (18-34 yr)
		3.9 (35-49 yr)
45-64 years	4.1	4.3 (50-64 yr)
65 years and over	7.4	5

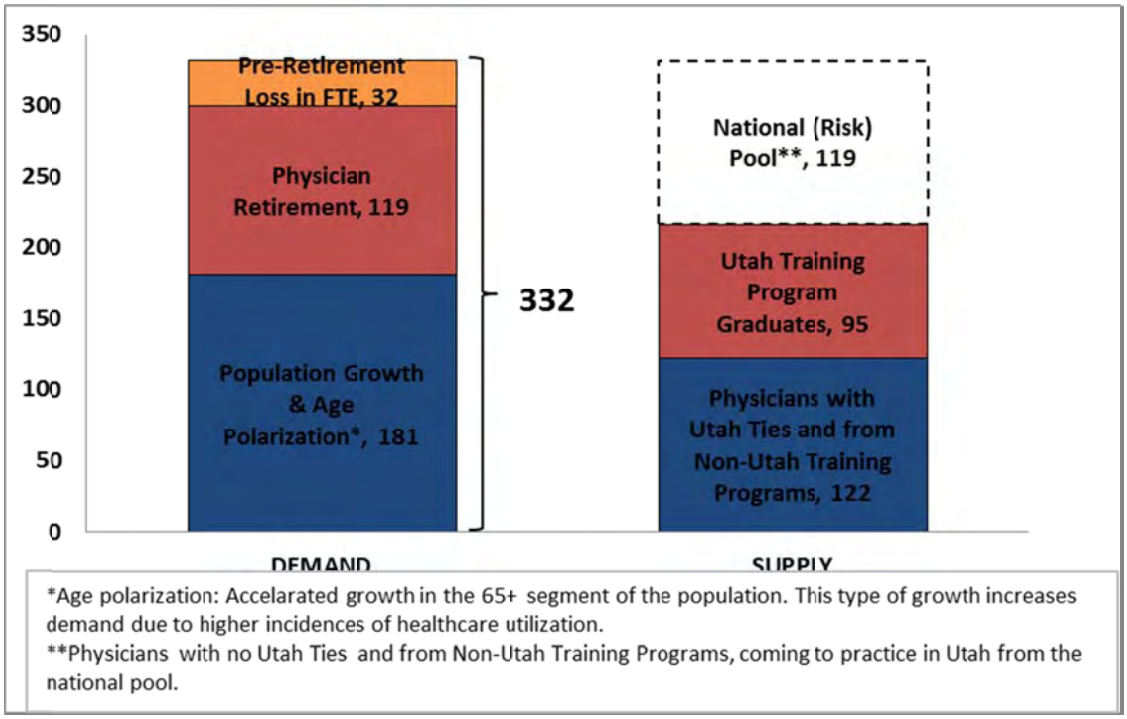
Further extrapolations of these data indicate that an average of 8 additional physicians must be added each year to accommodate the projected growth in healthcare utilization among the 65 and

[13] Although the population in Utah continues to grow, the healthy status of the state helped ease some of the demand for physicians until lately. According to the United Health Foundation's 2003 report on America's health, Utah was the third healthiest state in the nation. However, in 2010, Utah has slipped to the seventh place in these rankings. The prevalence of risk factors such as smoking, violent crime, and heart disease which helped contribute to the state's high ranking in 2003 continue to remain low. The factors that deteriorated were the percentage of children in poverty and the prevalence of obesity in the state. (http://www.americashealthrankings.org/yearcompare/2010/2010/UT.aspx)

above age group referred to as age polarization. This brings the total number of physicians needed to keep up with the population growth and age polarization to 181.

Simultaneous to these changes are the demographic shifts in the physician workforce. Like the rest of the population, 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 32 FTEs per year.[14] When combined with the 119 physicians that will be retiring annually, Utah will need 210 physicians to replace those that are exiting the workforce. The various components of demand produce a combined annual need of 332 physicians.

Figure 22: Projected Annual Demand and Supply of Physicians in Utah



PROJECTED SUPPLY OF PHYSICIANS

Utah has one medical school that used to graduate about 100 students on an annual basis. Recent reduction in class size has brought this number down to 82 students per year. Utah has 53 residency and fellowship programs. The residency programs graduate 165-175 residents a year. Only a limited number of physicians that graduate from a Utah residency program will enter practice in the state. The rest leave to fulfill military commitments, pursue further clinical training, or establish practice in another state. Between 1998 and 2010, Utah has retained an average of 41.2% of its residency program graduates. Based on this retention rate, it is estimated that, on average, 68 to 72 of the residents remained in Utah. In addition, Utah trains about 80-90

[14] The number of FTEs was estimated based on the reduction in hours self-reported by survey respondents. 60 hours/week=1.5 FTE; 40 hours/week=1 FTE; 20 hours/week=0.5FTE

physicians in its fellowship programs each year. Between 1998 and 2010, Utah has retained an average of 30.3% of the fellows in Utah to practice. This translates to about 24 to 27 physicians, putting the total supply from Utah training programs somewhere between 92 to 99 physicians, about 28% to 30% of the physician demand in Utah.

This indicates that Utah has to rely upon the national pool of physicians for about 70% of its physician need. Those who have been willing to relocate to Utah have done so for a variety of reasons. Some are attracted by the recreational and research opportunities, while others are drawn through family or religious ties. Regardless of the reasons, the presence of these physicians has meant a broader range of medical services for Utah's population and an increased capacity to serve as the Intermountain regional referral center.

Over the past five years, Utah issued an average of 627 new physician licenses each year. Of these, about 67% are retained in the Utah workforce while the others typically maintain a license for other reasons.[15] This results in an average of 420 new physicians entering the Utah workforce each year. However, this number includes new residents and fellows entering into Utah training programs and not into the Utah workforce, which leaves about 240 physicians entering the Utah workforce annually. Of these 240, on average, about 122 have ties to Utah i.e., familial or cultural ties. The remaining 118 are physicians who enter the Utah workforce with no Utah ties – neither educational, nor familial.

Recruiting from the national pool is becoming increasingly difficult due to the dwindling supply of new providers. A multitude of current national projections indicate that the nation may be on the verge of a staggering physician shortage. (Cooper, Getzen, McKee, & Laud, 2002) (Mitka, 2007) (Gregory, et al., 2009) (Inglehart, 2008) (Dill & Salsberg, 2008) (COGME, 2005) (Bureau of Health Professions, 2006) About 66% of our current workforce has some connection with Utah, whether through upbringing and/or education. It is important therefore, that we focus on medical school graduates (M.D. and D.O.). Identifying these candidates through their applications to medical schools (M.D. and D.O.) and notifying them of clinical rotation and employment opportunities through their medical and GME training might be one way to help ease the competition Utah faces from other states.

While the current supply of physicians is sufficient to meet the current needs of Utah, given the fact that Utah relies on out-of-state physicians for about 70% of its workforce and that the nation is likely to face a serious physician shortage, it is imperative that we strengthen our supply sources. The UMEC recommends that the medical school class size at the University of Utah be reinstated to 100 students and if possible, expand it further. In addition, the UMEC recommends that the state, in collaboration with the UMEC and the Board of Regents, develop a database that identifies applicants from Utah to the various medical schools across the nation and provides them with opportunities to develop professional ties to Utah.

[15] 1998, 2003, and 2010 physician workforce surveys conducted by the UMEC

Table 21: Applicants and Matriculants to the U.S. M.D. Schools, 2000-2011

Medical School Applicants from U.S., 2000-2011												
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Applicants	37,088	34,860	33,624	34,791	35,735	37,372	39,108	42,315	42,231	42,268	42,741	43,919
Percentage Change	NA	-6%	-4%	3%	3%	5%	5%	8%	0%	0%	1%	3%
Medical School Matriculants from U.S., 2000-2011												
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Matriculants	16,301	16,365	16,488	16,541	16,648	17,003	17,361	17,759	18,036	18,390	18,665	19,230
Percentage Change	NA	0%	1%	0%	1%	2%	2%	2%	2%	2%	1%	3%

(American Association of Medical Colleges, 2011, p. Table 3)

Table 22: Applicants and Matriculants to the U.S. M.D. Schools from Utah, 2000-2011

Medical School Applicants from Utah 2000-2011												
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Applicants from Utah	486	428	426	426	463	478	488	483	528	521	467	461
Percentage Change	NA	-12%	0%	0%	9%	3%	2%	-1%	9%	-1%	-10%	-1%
Medical School Matriculants, from Utah 2000-2011												
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Matriculants from Utah	216	212	217	218	233	225	224	202	217	197	181	183
Percentage Change	NA	-2%	2%	0%	7%	-3%	0%	-10%	7%	-9%	-8%	1%

(American Association of Medical Colleges, 2011, p. Table 4)

Table 23: Applicants and Matriculants to D.O. Colleges from U.S. and Utah, 2007-2011

Osteopathic School Applicants, from U.S. 2000-2011					
Year	2007	2008	2009	2010	2011
Applicants	11,231	11,742	12,617	13,147	14,087
Percentage Change	19%	5%	7%	4%	7%
Osteopathic School Matriculants, from U.S. 2000-2011					
Year	2007	2008	2009	2010	2011
Matriculants	4528	4950	5227	5428	-
Percentage Change	12%	9%	6%	4%	-
Number of Matriculants from Uta	-	-	138	130	-

(American Association of Colleges of Osteopathic Medicine (AACOM), 2008-11)

Table 24: Utah Applicants and Matriculants at the University of Utah School of Medicine, 2000-2011

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total Applications to U of Utah School of Med.	1,348	1,195	1,100	1,117	930	1,074	1,169	1,269	1,336	1,241	1,207	1,500
Applicants with Utah as legal state of residence (Utah Applicants)	450	399	390	388	418	424	422	416	458	437	394	403
Utah applicants whose application was accepted	88	85	97	89	99	93	90	88	95	76	73	83
Utah applicants who matriculated	78	74	79	77	76	75	75	76	81	61	61	61

(University of Utah School of Medicine Admissions Data, 20th November 2011)

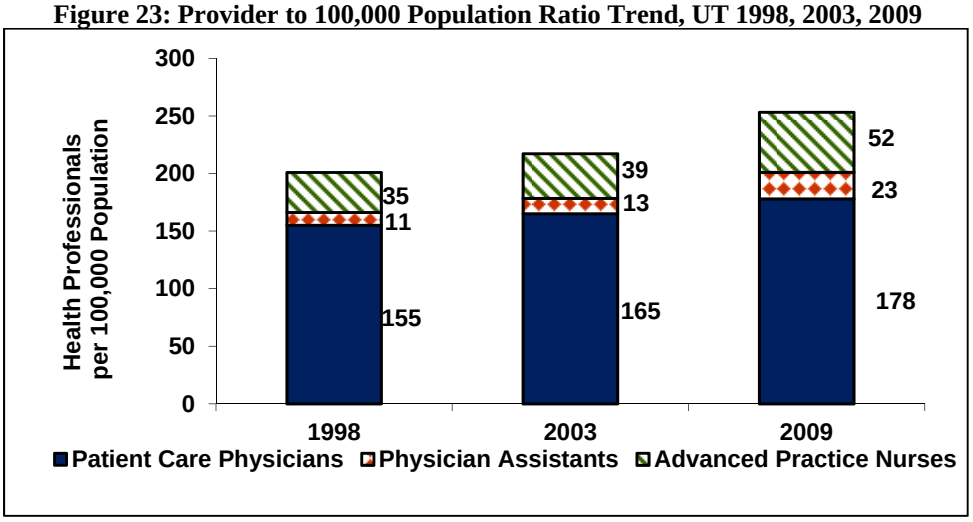
INCREASING ROLE OF MID-LEVEL PROVIDERS

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 are being 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 and proposed changes to the regulations of these professions are enabling these practitioners 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 635 PAs and 1,432 APNs providing patient care in Utah. (Utah Medical Education Council, 2010) These figures reflect respective increases of over 96% and 82% since 2003. An interesting aspect of this growth is the gradual shift in the number of mid-level providers towards specialty care. Currently, over 56% of PAs 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.

In addition to the growing number of mid-level providers, the healthcare systems in the western region of the U.S. seem to utilize the services of mid-level providers more than other areas. This is evident from the fact that mid-level providers in the western region receive the highest median compensation among the four regions of the U.S., while physician compensation in the western region takes third place. (Medical Group Management Association, 2011, pp. 4, and 249)

Figure 23: Provider to 100,000 Population Ratio Trend, UT 1998, 2003, 2009



Self-reported data indicate that one FTE[16] physician handles 2,919 patient visits per year, one FTE[16] PA handles 3,683 visits per year, and one FTE[16] APN (NP/CRNA/CNS/CNM) handles 2,581 visits per year in Utah. In addition to visit rates, the contribution of mid-level providers in terms of physician equivalents needs to be adjusted for the varying scope and skill level involved among the various types of visits. The Relative Value Unit (RVU) measure used by the Centers

[16] 60 hours/week=1.5 FTE; 40 hours/week=1 FTE; 20 hours/week=0.5 FTE

for Medicare and Medicaid Services (CMS) to calculate Medicare reimbursement addresses this issue. The Physician Work RVU captures the relative level of time, skill, training and intensity involved in providing a given service. (American College of Radiation Oncology, 2011) It is a proportional measure where a Current Procedural Terminology (CPT)® code[17] with higher number of work RVUs suggests the need for more skill, intensity, and/or time needed for the service. According to the MGMA, on average, a physician provides 6,093 RVUs while a PA provides 3,154 and an APN provides 2,177 RVUs annually. (Medical Group Management Association, 2011)

Efforts to estimate the RVUs and the proportion of visits that require the services of the different providers (physicians, mid-level providers etc.) in Utah are underway. In addition, visits that do not require physician services and are exclusively to an APN or a PA will help estimate the proportion of a mid-level provider's services that are used as a complement rather than a replacement of a physician's services.

WORKFORCE REQUIREMENTS IN SPECIALTY AND SUBSPECIALTY AREAS

Utah has a high number of specialists serving both the state and regional population. The workforce requirement for a specific specialty or subspecialty depends on a multitude of factors like utilization rates, settings, technology availability, alternative treatment options, provider productivity measures, etc. 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 previous physician reports (and in this report), a supply-based approach was utilized to determine how many physicians would be needed. A supply-based approach is "based on adjusting and projecting current levels of service provision with expected demographic changes in the population" (O'Brien-Pallas, Baumann, Donner, Murphy, Lochhaas-Gerlach, & Luba, 2001). This approach is useful, but it assumes that the current level of physicians is appropriate for the population. In 2011, the UMEC began a study to determine the demand/need for physicians in Utah. There are a number of different methods for assessing physician demand/need. One of the most common approaches is based on patient utilization, and is sometimes called the requirement model. Researchers have used a number of different methods to estimate utilization rates (for a good summary, see (O'Brien-Pallas, Baumann, Donner, Murphy, Lochhaas-Gerlach, & Luba, 2001) (Simmons & Harris, 2004) (Roberfroid, Leonard, & Stordeur, 2009), but one of the most common is to determine optimum physician-to-population ratios based on the utilization of physicians in prepaid group practices or health maintenance organizations. (Weiner, 2004) (Goodman, Fisher, Bubolz, Mohr, Poage, & Wennberg, 1996) (Hart, Wagner, Pirzada, Nelson, & Rosenblatt, 1997).

The UMEC conducted a similar analysis to Simmons & Harris (2004), aggregating physician-to-population ratios from a number of different sources (Lohkamp & Simmons, 1995) (Goodman,

[17] "The purpose of CPT is to provide a uniform language that accurately describes medical, surgical, and diagnostic services, and thereby serves as an effective means for reliable nationwide communication among physicians, and other healthcare providers, patients, and third parties." (American Medical Association, 2005-2011) For more information, go to http://www.ama-assn.org/ama/pub/physician-resources/solutions-managing-your-practice/coding-billing-insurance/cpt/cpt-process-faq/code-becomes-cpt.page

Fisher, Bubolz, Mohr, Poage, & Wennberg, 1996) (Hart, Wagner, Pirzada, Nelson, & Rosenblatt, 1997) (Solucient, 2004) (Weiner, 2004). The average (by specialty) of these physician-to-population ratios can be found in the column labeled "Target Ratio (Average)" in Table 25. Since the ratios are based on a conservative use of physician services (prepaid group practices and HMOs), they provide an estimate of the minimum number of physicians that would be necessary to treat a population of 100,000 people.

Assuming that Utah needs a physician-to-population ratio at least as high as the target ratio (which is a conservative average), it is possible to see whether Utah might not have enough doctors practicing in a particular specialty. Without taking into account annual need and supply, there are a few physician specialties that Utah may be lacking, including internal medicine (general), cardiology, gastroenterology, general surgery, rheumatology, and radiology (diagnostic).

The retirement rate is based on the survey responses of physicians practicing in Utah who indicated they will retire in the next ten years. The estimated need for population growth in this table is simply the number of current physicians in a specialty multiplied by the average annual population growth for Utah (2.4%). Similar to projecting need, the annual supply of physicians in Utah is taken from UMEC data (both the resident tracking and the physician survey) and provides an estimate of the number of physicians in each specialty that are entering practice in the state each year.

Table 25: Physician Need, Supply, and Demand in Utah by Specialty

Annual Population Growth Rate (10 yr avg.)		2010 Physician-to-Population Ratios				Annual Projected Needs				Annual Training Capacity, Retention, and Recruitment					
Primary Practice Specialty	2.4% Physicians (FTE)	Ratio for 100k Pop.	Target Ratio (Average)*	Ratio minus Target	Physician (Shortage) or Surplus	Retire Rate next 10 yrs	Retirees	Popul. Growth	Need (a)	Residency/ Fellowship Graduates^	Average Retention Rate	New Licensees Trained Out-of-State$	Entering Utah Workforce (b)	Annual (Shortfall) or Surplus (b - a)	Overall (Shortage) or Surplus
Primary Care															
Family Medicine	846	29.7	28.3	1.4	40	1.7%	14	20	34	26	65.2%	28.1	45	11	50
Internal Medicine (General)	422	14.8	21.5	(6.7)	(191)	2.0%	9	10	19	31.2	39.5%	17.9	30	12	(179)
Pediatrics (General)	402	14.1	11.8	2.3	66	2.0%	8	10	18	19	49.5%	22.2	32	14	79
Pediatrics Subspecialties	108	3.8	1.4	2.4	68	2.8%	3	3	6	10	36.0%	6.4	9	3	71
Obstetrics/Gynecology	269	9.4	9.6	0.8	22	3.1%	8	6	15	5.2	39.3%	13.5	16	1	24
Ob/Gyn Subspecialties	26	0.9	combined with OB/Gyn			2.1%	1	1	1	1.6	76.0%	1.6	3	2	
Medical															
Allergy and Immunology	28	1.0	1.2	(0.2)	(6)	3.3%	1	1	2	0		1.6	2	(0)	(6)
Cardiology	78	2.8	4.0	(1.2)	(35)	2.0%	2	2	3	8.2	38.9%	4.3	7	4	(32)
Critical Care Medicine	30	1.0	1.2	-0.2	(4)	0.8%	0	1	1	0		2.7	3	2	(3)
Dermatology	107	3.8	2.3	1.5	42	2.4%	3	3	5	2.4	42.3%	6.0	7	2	44
Endocrinology and Metabolism	21	0.7	0.8	-0.1	(2)	2.9%	1	1	1	1	33.3%	0.5	1	(0)	(2)
Gastroenterology	52	1.8	2.4	(0.6)	(16)	3.5%	2	1	3	2	44.0%	0.5	1	(2)	(18)
Geriatrics	16	0.6				2.1%	0	0	1	0.8	21.4%	0.0	0	(1)	
Hematology/Oncology	61	2.1	1.9	0.2	6	1.3%	1	1	2	3	42.9%	1.1	2	0	7
Infectious Diseases	25	0.9	0.6	0.3	8	1.4%	0	1	1	2.4	37.0%	0.5	1	0	8
Nephrology	34	1.2	1.0	0.2	5	2.2%	1	1	2	1.6	62.9%	3.2	4	2	6
Pulmonary Disease/CCM	44	1.5	1.5	0.0	1	1.3%	1	1	2	4	48.1%	2.7	5	3	4
Rheumatology	18	0.6	0.9	(0.3)	(7)	4.2%	1	0	1	1.4	36.4%	0.0	1	(1)	(8)
Surgical															
Surgery (General)	158	5.6	6.6	(1.0)	(30)	2.1%	3	4	7	5.6	32.9%	8.1	10	3	(27)
Cardio-Thoracic Surgery	31	1.1	1.1	(0.0)	(0)	0.7%	0	1	1	2	25.0%	1.1	2	1	0
Ophthalmology	142	5.0	4.0	1.0	28	1.9%	3	3	6	2.4	33.3%	10.3	11	5	33
Orthopedic Surgery	224	7.9	5.6	2.3	65	2.4%	5	5	11	12.6	19.1%	9.2	12	1	66
Otolaryngology	85	3.0	2.6	0.4	11	2.3%	2	2	4	2	15.4%	2.7	3	(1)	10
Plastic Surgery	79	2.8	1.2	1.6	45	2.6%	2	2	4	2.2	25.0%	2.7	3	(1)	44
Urology	71	2.5	2.7	(0.2)	(6)	3.5%	2	2	4	2	15.4%	4.3	5	0	(6)
Surgery Subspecialties	95	3.3	3.0	0.3	9	1.8%	2	2	4	5.6	28.0%	6.0	8	4	13
Hospital															
Anesthesiology	341	12.0	6.8	6.3	179	2.4%	8	8	17	11	56.8%	16.8	23	7	188
Anesthesiology-Pain Mgmt	31	1.1	combined with Anesthesiology			1.6%	0	1	1	2.4	41.7%	3.2	4	3	
Emergency Medicine	311	10.9	8.0	4.9	140	2.1%	7	7	14	4.4	63.6%	21.6	24	10	150
Pathology	132	4.6	2.4	2.2	63	2.5%	3	3	6	10.6	34.3%	7.0	11	4	68
Radiology (Diagnostic)	176	6.3	8.4	(1.3)	(37)	2.1%	4	4	8	9	34.8%	14.1	17	9	(27)
Radiology (Therapeutic)	24	0.8	combined with Radiology (Diagnostic)			2.5%	1	1	1	2	11.8%	1.6	2	1	
Other															
Hospice and Palliative Medicine	10	0.4				3.0%	0	0	1	0		0.0	0	(1)	
Neurology	77	2.7	2.3	0.4	11	1.8%	1	2	3	6	43.2%	4.3	7	4	15
Physical Medicine and Rehab	82	2.9	1.0	1.9	53	1.0%	1	2	3	3.6	34.0%	2.2	3	1	54
Preventive/ Occupational/ Public	48	1.7	1.5	0.2	6	2.8%	1	1	2	2.8	36.4%	2.7	4	1	6
Psychiatry	176	6.2	5.5	0.7	19	3.0%	6	4	10	5	57.1%	5.4	8	(1)	18
Psychiatry-Child and Adolescent	49	1.7				2.0%	1	1	2	3.2	37.5%	2.7	4	2	
Other Specialty	105	3.7				3.4%	4	3	6	3.8	50.0%	7.0	9	9	

Physician FTE total does not include physicians who are practicing in Utah but whose primary practice location is out-of-state. As a result, specialties that do not require the physician to be in the same location as the patient (e.g. radiology) may show shortages where there are none (since a portion of the Utah population is being served by out-of-state physicians).

* Target ratios are an average of several published physician-to-population ratios, including Lohkamp & Simmons 1995 (Longshore & Simmons base rates), Goodman et al. 1996 (national rates based on AMA Masterfile), Hart et al. 1997 (HMO), Solucient 2003 (national consulting company estimates), Weiner 2004 (average of several large prepaid group practices), Simmons & Harris 2004 (documented several of the above ratios)

^5 year average

$3 year average

Looking at the overall shortage or surplus of physicians by specialty, it is possible to see whether Utah might be closing the gap on the specialties with shortages or whether the shortage is getting worse each year. It is important to remember that the target ratios are conservative averages, so a "surplus" of physicians may reflect the actual need in the State. And, considering that there are some physician specialties with shortages, it is likely that other specialists are covering for the shortage areas. For example, it looks like Utah has a serious shortage of internal medicine physicians, but at least some of this shortage is likely being covered by other primary care physicians (family medicine, pediatrics, and obstetrics/gynecology). However, even taking into account this possibility, it is likely that Utah needs more physicians with specialties in internal medicine, general surgery, cardiology, gastroenterology, and rheumatology. Based on the data, an argument could be made that other specialties are also in short supply. On the other hand, the model indicated a shortage in radiology (diagnostic), but it is likely that this shortage is being covered by out-of-state radiologists and technological advances.

In addition to the specialties identified by the target ratio model described above, patient wait time (number of days from the time a patient calls for an appointment to the day of the appointment) also serves as an indicator to the specialty workforce requirement. As noted above, five specialties (gastroenterology, pulmonary disease/CCM, general surgery, cardio thoracic surgery, and child and adolescent psychiatry) have seen a double-digit percentage growth in wait times since 2003 for both new and established patients.

Specialties with the top three (longest) wait times for new patients include: rheumatology (75 days), neurology (33 days), and gastroenterology (31 days). For established patient wait times, the top three places go to five specialties – obstetrics and gynecology and sleep medicine (22 days), endocrinology and metabolism (21 days), gastroenterology and neurology at 20 days. Gastroenterology also tops the list for the highest growth in waiting time since 2003 for both new and established patients.

Clearly, both the model and wait time data converge to suggest that general surgery, gastroenterology, and rheumatology are three specialties that require immediate attention. In addition, internal medicine and cardiology appear to be specialties in severe need. Close attention should also be paid to the workforce trends in allergy and immunology, cardio-thoracic surgery, child and adolescent psychiatry, and pulmonary disease/CCM.

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 with 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.

SUMMARY OF FINDINGS

1) In 2010, there were 5,996 physicians working in Utah. Of those, 4,977 were active patient care providers, meaning they spent more than 50% of their work week in direct patient care or teaching. This supply equates to approximately 178 patient care physicians per 100,000 people, which is below the nationally recommended ratio of 290 physicians per 100,000 people for physician workforce adequacy by the Council on Graduate Medical Education (COGME). (COGME, 2005) *(See Page 1)*
2) Utah physicians are relatively younger than their national counterparts. The average age of physicians practicing in the nation is 51.5 years (American Medical Association (AMA), 2010, p. 15); in Utah the average age is 48.7 years (SD=11.7). Only 9% of the Utah workforce is 65 years or older compared to 20% of the national workforce. *(See Page 8)*
3) The self-reported average age of retirement of Utah physicians is 65 years (SD=5.9). The number of young physicians (<45 years old) who reported plans to retire early (before they are 60 years old) has reduced by four fold since 2003, reflecting a change in lifestyle preferences of the younger physician cohort. *(See Page 9)*
4) In 2010, 21% of all Utah physicians (including residents and fellows) were female compared to 29% nationally. In 2010, 37% of all survey respondents who are trainees (residents/fellows) were female compared to 20% of all practicing physicians. This suggests that the future physician workforce may have a larger percentage of female physicians. However, medical schools (both in Utah and across the nation) are seeing a decline in the percent of female applicants and matriculants since 2003. This change will be reflected in our future workforce and needs to be monitored.*(See Page 12)*
5) Primary care physicians earn 34% less per annum than their specialist counterparts in Utah. The median income (adjusted for hours worked) for primary care physicians in Utah was about $133,000 and about $178,000 for specialists, with further variations in income by specialty. This has increased from $125,000 for primary care physicians and $170,000 for specialty care physicians in 2003, translating to a 6.4% and a 4.7% growth respectively over the past seven years. *(See Page 17)*
6) Sixty-six percent of the physicians practicing in Utah have had some previous contact with the state, either through upbringing, medical education, or residency training, compared to 86% in 2003. This might be a good sign for Utah in that it is attracting more physicians to the state with no ties to the state. It also suggests that Utah is increasingly reliant on recruiting from the national pool, which could become problematic if demand for physicians increases nationwide. Factors attracting these physicians to the state need to be studied and reinforced to maintain and expand this supply source. *(See Page 20)*
7) In 2010, 36% of Utah physicians practiced in generalist fields (family medicine, general internal medicine, pediatrics, and general obstetrics and gynecology). Primary care workforce grew by 37% since 2003. During the same period, specialty workforce grew by 32%. Despite the growth, there is growing concern over whether or not our current training capacity is enough to meet the statewide needs in primary care. While the implementation of health reform will increase the demand for generalist and specialist physicians, recent focus

on patient centered, team-based healthcare system across the nation might add to the already pent up demand for primary care workforce. *(See Page 6)*

8) About 5% of Utah physicians reported a full practice (they cannot accept any new/additional patients), of whom, 56% reported practicing a primary care specialty. About 34% reported a nearly full practice (they can accept some new/additional patients), 40% of these were practicing a primary care specialty. This implies that about 39% of our physicians are either at or near full capacity and cannot take any new/additional patients. This is close to the 43% who reported full or nearly full practices in 2003. More importantly, 50% or more of all primary care specialists except pediatricians have reported full or nearly full practices in the state. *(See Page 18)*
9) The primary care physician workforce (FM, IM, Peds, Ob/Gyn) in the state seems equitably distributed geographically. In 2010, approximately 15% of Utah's population lived in rural counties, while 12% of the primary care physician workforce provided services in those areas. Despite this equity, 23 of the 29 counties in Utah still had some form of Primary Care Health Professional Shortage Area (HPSA) designation, suggesting that other forms of maldistribution, such as overwhelming physician patient loads, extensive waiting periods, and excessive use of emergency departments for routine treatment etc., might be prevalent. *(See Page 22)*
10) Utah will need 332 physicians each year – 119 to replace the retiring physicians, 32 to adjust for the loss in FTEs due to physicians reducing their hours before retirement, and 181 to adjust both for the growing population (173 physicians per year) and to meet the increasing needs due to the aging population (8 additional physicians per year). Utah training programs supply about 95 physicians per year to the state workforce. About 122 physicians come to practice in Utah each year because of their ties to Utah. Another 119 physicians who come to practice in Utah each year do not have any ties to Utah and are imported from other states. Currently, Utah has no problem meeting its physician workforce needs. The 119 physicians who come to Utah from other states are termed as Utah's risk pool. If the national shortage projections were to materialize, continuing to attract these physicians to Utah will become increasingly challenging. *(See Page 29)*
11) General surgery, gastroenterology, rheumatology, internal medicine, and cardiology appear to be specialties in severe need. Close attention should also be paid to the workforce trends in allergy and immunology, cardio-thoracic surgery, child and adolescent psychiatry, and pulmonary disease/CCM. (*See Page 35*)

POLICY RECOMMENDATIONS

To develop a comprehensive i.e., a sustainable, efficient, and effective workforce supply for Utah, a strategy that addresses pipeline development, workforce training, distribution, and management of the workforce is required. The UMEC makes the following recommendations to address the same:

1. **Pipeline Development:** Introduce medicine as a career choice early on in the educational pipeline. Early intervention is vital to maintain a constant, ethnically and geographically diverse source of talent pool for our future workforce. The Area Health Education Centers in Utah and the Southern Utah University's Center for Rural Health are two agencies that are actively engaged in this process. The UMEC recommends that continued support be provided to these agencies in order to strengthen their efforts.

2. **Recruitment & Retention:** A majority of the UMEC health professional workforce studies indicate that individuals with Utah ties are more likely to stay and practice in Utah. As such, the UMEC recommends the following measures to strengthen our workforce:

    a. **Reinstate loan reimbursement programs** like the Utah Healthcare Workforce Financial Assistance Program and the state matching program with the National Health Service Corps, which are administered by the Utah Department of Health. Given the high recruitment costs for physicians and the cost of not having a required physician in the community (see *Page 24*), the need to replace about 31% of the rural physician workforce in the next ten years, and the difficulties in attracting new physicians to replace those who are retiring, the UMEC recommends that the state not only reinstate funding, but also consider expanded funding for these programs.

    b. **A master database of Utah students in non-Utah training programs:** In addition to reinforcing Utah training programs, the UMEC recommends that the state, in collaboration with the UMEC and the Board of Regents, develop a database that identifies applicants and/or enrollees from Utah to the various medical schools across the nation. Such a database can be populated with information from the American Medical College Application Service (AMCAS) housed by the American Association of Medical Colleges (AAMC) and the American Association of Colleges of Osteopathic Medicine Application Service (AACOMAS). Using this database in conjunction with the proposed clearing house for clinical rotations (3a) will provide future professionals being trained outside of Utah with opportunities to develop professional ties to Utah. In addition, employment opportunities can also be forwarded as needed to the members of this database as they graduate from their GME programs and become available for service.

    c. Encourage training 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 a training program in Utah. Through its annual job fairs, the UMEC brings Utah practice opportunities closer to the students, residents, and fellows in Utah training programs. Continued support for such recruiting events exclusive for Utah opportunities is encouraged.

d. **Track resident retention** – both in terms of trainees staying in Utah for practice, and by rural and urban practice settings to understand the trends, and factors that impact workforce retention and turnover. Either the UMEC or the Utah Division of Occupational and Professional Licensing (DOPL) could house and manage this database.

3. **Workforce Training Development:** The current training models, while producing high quality healthcare workforce, are insufficient to meet the needs of an up-and-coming patient-centered, medical home system. Ongoing turf battles, lack of clinical training sites, lack of an integrated team-based training system are some of the major hurdles that need to be addressed. The UMEC makes the following recommendations:

   a. **Develop or expand programs to accommodate the needs of the state:** The UMEC recommends that the class size of the University Of Utah School Of Medicine be reinstated and, if possible, increased to accommodate for the growing need of physicians. The UMEC also recommends that residency and fellowship programs continue to be monitored and expanded as needed based on prioritized needs of the state.

   b. **Develop rural exposure & training opportunities:** Efforts should be made to increase exposure to rural medical practice. This will help trainees to familiarize themselves with the opportunities and hurdles posed by a rural environment and therefore, increase the likelihood that trainees will consider these areas as potential practice sites.

      The state of Utah currently funds clinical rotations for medical and dental residents; physician assistant students, and nurse practitioner students in various training programs across Utah. These funds are managed by the UMEC. Continued support and expansion of this program is recommended.

      The Association of Utah Community Health Centers also coordinates a clinical rural rotation program through its Student/Resident Experiences and Rotations in Community Health (SEARCH) program that enables students and residents to serve clinical rotations on multidisciplinary healthcare teams in underserved communities across the United States and its territories. Efforts should be made to strengthen this program and harness it to benefit Utah optimally.

      Development of new rural residency training programs and tracks should be explored in the state, especially for primary care specialties, given that graduates from such programs/tracks are more likely to practice in rural areas. (Rosenthal & Danzo, 2000) (Pathman D. , Steiner, Jones, & Konrad, 1999) (Catinella, Magill, Thiese, Turner, Elison, & Baden, 2003) The University of Utah Hospital and Clinic Systems and Intermountain Healthcare should consider

hosting such programs in their rural locations. Alternately, Community Health Centers and/or medical group practices in rural locations can act as training sites.

Incentivize retired physicians to provide services in a rural area for a fixed period of time. Tracking retired physicians with Utah ties, both in primary and specialty care, and inviting them to practice in the economically and geographically underserved areas of Utah is one way to address the maldistribution issue in Utah. Given the fact that more physicians are likely to retire in the near future (impact of the baby boomer generation), this cohort could be the solution to address the immediate needs of the state. The Utah Division of Occupational and Professional Licensure (DOPL), Utah Department of Health (UDOH), and the Utah Medical Association (UMA) might form an alliance to develop an action plan to harness this resource.

c. **Build a clearing house for clinical rotations**: An agency that helps coordinate clinical rotations for the various GME training programs, including Physician Assistant and Advanced Practice Registered Nurse workforces is recommended.

The presence of such an agency will not only mitigate turf battles, but will also give a chance to promote rural exposure to the students/residents who seek rotations. In addition, the major hospital systems close to the training centers will be spared from a bombardment of applications for clinical rotations every year. Possibility of a team-based, clinical training system can be explored through this agency which will help cater to the needs of a patient-centered, medical home model. This will also help prioritize rotations based on the specialty and scope of skills needed across the rotation sites. Such an agency, working in tandem with the clinics and hospitals, can help promote recruitment and retention of Utah trained professionals in Utah. The UMEC is suitably equipped for this task.

d. **Develop a team-based approach and interdisciplinary training:** It is ineffective to address the physician workforce issues as a stand-alone issue in the complex net of our current and evolving healthcare system. Mid-level providers, like Physician Assistants and Advanced Practice Nurses, have become indispensable in most healthcare settings, including but not limited to hospitals, physician group practices, etc. Medical teams are vital for the up-and-coming, patient-centered, medical home model. As such, these workforces need to be trained in teams to be effective in a real work setting. Focus on developing curricula which integrates the training of these workforces is important. These efforts will also help improve productivity and reduce inefficiencies and turf battles in the long run. A consortium of training programs in the state, under the leadership of the Board of Regents, should undertake this charge.

4. **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.

    a. **Collect core workforce data more periodically through Utah DOPL:** While the UMEC continues to collect information regarding the practice and demographic characteristics of healthcare providers in Utah, the information, although periodic, is spaced out at five year intervals. More current data is required to make day-to-day policy decisions. As such, the UMEC recommends that the Utah DOPL incorporate a few core questions into its license application and renewal forms. Doing so will enable the state to have updated data once every two years, with minimal cost.

    b. **Develop a coalition of agencies that house state data:** While many agencies collect healthcare data, 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 encourages collaboration among various agencies in the collection of physician data so that policy recommendations can be made using the best available information. Partnership between the Utah Health Data Committee, the Utah Medical Education Council, Utah Health Insight, the Utah Health Information Exchange, the Utah Department of Workforce Services, Utah DOPL, and other agencies that collect healthcare data is strongly recommended.

    c. **Develop Student, Retention, and Rotation Databases:** In addition to developing partnerships, and a more periodic and consistent data collection system, the UMEC also recommends creating and maintaining a student database that identifies students with Utah ties in non-Utah training programs, a retention database that identifies the trainees from Utah programs that are being retained in the state and their characteristics, and a clinical rotation clearing house development that enables better coordination of team-based training, efficiently utilizing the resources in the state to train those most needed by the state.

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 Occupational and Professional Licensing (DOPL). Through DOPL, the UMEC was able to obtain a list of every licensed physician in Utah. As of 2009 December, there were 8,937 physicians with an active license 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 2010 physician survey, the UMEC critically analyzed the strengths and weaknesses of the 1998 and 2003 survey instruments. The 2010 survey instrument is essentially a replica of the 2003 survey instrument, which was streamlined for efficiency and comparability across the nation, with minor changes to accommodate these additional goals:

- To develop a survey instrument that will capture information that enables trend analysis – or comparison of current data with previous UMEC physician workforce survey results.
- To design a survey that will enable us to compare across healthcare workforce groups – physician assistant and advanced practice nursing workforce data that the UMEC collects through its surveys and
- To capture the impact of the recent recession on Utah's physician workforce.

A draft version of the updated survey was sent out for field test. This was done to ensure an optimum survey design that enables high quality data collection and to minimize any sources of measurement errors in the questionnaire. Subject matter specialists on the physician workforce advisory committee, a sample of residents in the University of Utah residency programs, and a sample of licensed physicians were included in this field test. Feedback from the three groups and the quality of survey response was used to further modify the survey instrument.

C. Survey Timeline

The first mailing of the survey went out in December, 2009. 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 in February, 2010. The third mailing was eventually sent out by May, 2010.

D. Data Entry and Analysis

The 2010 Utah Physician Survey was processed using forms and databases created in Microsoft Access. Data entry and clean-up was done by All West Communications, Utah. Once the data entry was complete, the information was imported into a software package known as SPSS for statistical analysis. Data analysis began in November, 2010.

E. Survey Limitations

- The survey did not list "Hospital Medicine" or "Hospitalist" as a specialty choice (Question # 21). To estimate the number of hospitalists in Utah workforce was later collected by calling every hospital licensed in Utah. However, this information is not entirely accurate due to
    - Non-response of many hospitals and
    - Duplicate count of hospitalists working in multiple hospitals or hospital locations
- While the survey asks for total number of hours worked in a week (Question #23) and total number of hours worked in primary and secondary specialties respectively (Question # 24), it does not ask for the hours worked by a physician by his/her primary and secondary practice location. This results in ambiguity especially in cases where a physician primarily works out of Utah but has a secondary practice location in Utah.

F. Other Reporting Issues

- The 2003 physician workforce report does not include obstetrics/gynecology in primary care. However, this report includes obstetrics/gynecology in primary care in line with the national (HRSA and AMA) practices.
- **"Total Hour FTE"** is computed as a percentage of 40 hours, where 60 hours per week=1.5 FTE, 40 hours per week=1 FTE, and 20 hours per week=0.5 FTE. The total hour FTE does not discount the hours worked by a physician above 40 hrs/wk and therefore provides a more comprehensive measure of the available healthcare capacity of physicians in Utah. The total hour FTE approach can be applied to assess and compare the workload across physician specialties and geographic practice locations more effectively.
- The federal government uses the standard 40 hour work week methodology (U.S. Health Resources and Services Administration (HRSA)), according to which physicians working 40 or more hours are counted as 1 FTE, physicians working less than 40 are counted as a percentage (20 hours a week equals 0.5 FTE). For ease of use, an FTE calculated using this method will be referred to as the **"Standardized FTE."** This approach risks under-counting the available physician workforce capacity in Utah since it neglects the fact that physicians typically work more than 40 hours per week (see section "Work Hours").

APPENDIX B – SURVEY INSTRUMENT

1. Are you practicing medicine in Utah? ☐ Yes ☐ No
   a. ***If no**, please list reason **why you maintain a Utah license**.* _____ ***and***
   b. *Indicate the **one** main reason **why you no longer practice in Utah** **(please select only one option)**:*

   ☐ Retired ☐ Practice Environment ☐ Lower Pay Scale
   ☐ Lifestyle ☐ Military Assignment ☐ Other (***please specify:*** _____)

2. Please verify your individual NPI number: xxxxxxxxxx
   ☐ Yes, it is my individual NPI number ☐ No, it is not my individual NPI number
   *If this is **not your correct individual NPI**, please provide the correct number:*_____

Physician Demographics

3. **Gender:** ☐ Male ☐ Female **Age:** _____
4. Select ***one*** race/ethnicity that best describes you: ***(please select only one option)***

   ☐ White/Caucasian ☐ Black/African American ☐ Native American/Alaskan Native
   ☐ Spanish/Hispanic/Latino ☐ Asian ☐ Asian Indian ☐ Pacific Islander
   ☐ Other ***(please specify:*** _____***)***

5. Please describe the city/town where/when you spent the majority of your upbringing:
   ☐ Rural ☐ Suburban (connected to a metropolitan area) ☐ Urban/Major Metropolitan area
6. The county, state and country where you attended high school:
   County ***(if in Utah)***:_____ State: _____ Country: _____
7. The institution from which you received your ☐ MD or ☐ DO degree ***(please check the degree that applies)***: _____
   City: _____ State: _____ Country: _____
8. Please check the program you have completed (or are currently in), list the specialty in which you have trained (or are training), name of the institution, state, and the year (or expected year) of completion: ***(please fill in details for all programs you have attended/are attending)***

   a. ☐ Internship ☐ Residency ☐ Fellowship **Specialty**:_____
      Institution: _____ State: ____ Year of Completion: _____
   b. ☐ Internship ☐ Residency ☐ Fellowship **Specialty**:_____
      Institution: _____State: ____ Year of Completion: _____
   c. ☐ Internship ☐ Residency ☐ Fellowship **Specialty**:_____
      Institution: _____State: ____ Year of Completion: _____

Practice Demographics

9. Please provide your:
   Primary Practice Zip code: _____ Secondary Practice Zip code ***(if applicable)***: _____

   Primary Practice Name: _____

   Secondary Practice Name ***(if applicable)***: _____

10. 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

11. Please check the technology(s) that you currently use in your practice ***(please check all that apply)***:
    ☐ Electronic (patient) Medical Record (EMR) system ☐ *e*-Prescribing system
    ☐ Electronic Patient Panel ☐ Health Information Exchange ☐ None of the above

12. In an average **week**, how many **out-patients** do you see? Office:___ Urgent Care:____ ER:____

13. In an average **week**, how many **in-patients** do you see?
    Hospital:_____ Extended Health Care Facilities Outside the Hospital: _____

14. Please estimate the **percentage (%)** of patients you see from each of the following age groups ***(total of all practice locations – sum for each patient category should equal 100%)***

Outpatients:	0-19____	20-64___	65-84___	85+_____ ***(O/P total 100%)***
Inpatients:	0-19____	20-64___	65-84___	85+_____ ***(I/P total 100%)***

15. Number of days waiting for an appointment in your primary practice location:
    For a New Patient: _____ days For an Established Patient: _____ days

16. What is your average annual compensation? $_____/Year

17. At what age do you plan to retire? _____

18. Did the economic recession have any impact on your retirement plans? ☐ Yes ☐ No

    Because of recession, I am ☐ delaying or ☐ speeding ***(please check only one)*** my retirement by _____ years.

19. Prior to retirement, do you plan to reduce the number of practice hours per week? ☐ Yes ☐ No
    If yes, please specify:
    a. How many years from now do you plan to reduce your hours? _____ Yrs
    b. How many hours per week will you practice after reducing your hours? _____ Hrs/Wk
    c. Please list the one main reason for the planned reduction in hours:_____

20. What best describes your patient care practice setting? Mark **one box** for principal and **one box** for secondary practice location where applicable.

Primary Location	Secondary Location		Primary Location	Secondary Location	
☐	☐	Solo Practice	☐	☐	VA Hospital
☐	☐	Hospital In-Patient	☐	☐	Group Practice
☐	☐	Hospital Out-Patient	☐	☐	Nursing Home
☐	☐	Hospital ER	☐	☐	Home Health
☐	☐	Academic/Teaching Hospital	☐	☐	Free Standing Health Center/Clinic
☐	☐	Health Dept. (State/Local)	☐	☐	Other (_____)
☐	☐	FQHC			

21. Please check the primary and secondary specialty (if applicable) in which you spend most time:

Primary Specialty	Secondary Specialty		Primary Specialty	Secondary Specialty	
☐	☐	Allergy and Immunology	☐	☐	OB/GYN (Gen)
☐	☐	Anesthesiology (Gen)	☐	☐	Subspecialty(_____)
☐	☐	Pain Management	☐	☐	Ophthalmology
☐	☐	Other (_____)	☐	☐	Otolaryngology
☐	☐	Dermatology	☐	☐	Pathology (General)
☐	☐	Emergency Care	☐	☐	Subspecialty(_____)
☐	☐	Family Medicine	☐	☐	Pediatrics (General)
☐	☐	Hospice& Palliative Med	☐	☐	Subspecialty(_____)
☐	☐	Internal Medicine (Gen)	☐	☐	Physical Medicine & Rehab
☐	☐	Cardiology	☐	☐	Prevent. Med/Pub Health/Occ. Med
☐	☐	Critical Care Med	☐	☐	Psychiatry
☐	☐	Endocrinology & Metabolism	☐	☐	Child & Adolescent Psychiatry
☐	☐	Gastroenterology	☐	☐	Other (_____)
☐	☐	Geriatrics	☐	☐	Radiology (Diagnostic)
☐	☐	Hematology/Oncology	☐	☐	Radiology (Therapeutic)
☐	☐	Infectious Diseases	☐	☐	Surgery (General)
☐	☐	Nephrology	☐	☐	Cardio-Thoracic Surgery
☐	☐	Pulmonary Disease/CCM	☐	☐	Orthopedic Surgery
☐	☐	Rheumatology	☐	☐	Plastic Surgery
☐	☐	Other(_____)	☐	☐	Other(_____)
☐	☐	Internal Med& Pediatrics	☐	☐	Urology
☐	☐	Neurology	☐	☐	Other Specialty (_____)
☐	☐	Nuclear Medicine			

22. Are you currently board certified in your **(a)** primary specialty ☐ **Yes** ☐ **No** and/or
(b) In your secondary specialty ☐ **Yes** ☐ **No** listed in question 21? ***(please check all that apply.)***

23. In an average work week, how many hours do you work? _____ hrs/wk

24. In an average work week, how many hours do you provide patient care in your:
Primary Specialty: _____ hrs/wk Secondary Specialty ***(if applicable)***: _____ hrs/wk

25. What percentage (%) of your average work week (including all practice locations) do you spend in each of these categories? ***(total of all percentages should add up to a 100%)***

Patient Care (Including Charting) _____ % Teaching _____ %
Office/Practice Management _____ % Research _____ %
Other _____ % (***please specify:***_____)

26. Please check all that apply ***(for any one of your practice locations)***:
    a. I work with a □PA/□APRN/□Pharmacist/□Other Physician Extender ***(please specify:***_____-___***)*** **as a team**.
    b. I work with a □PA/□APRN/□Pharmacist/□Other Physician Extender ***(please specify:***_____***)*** **as a supervising doctor**.
    c. There **is a** □PA/□APRN/□Pharmacist/□Other Physician Extender ***(please specify:***_____***)*** **in my practice location, but I do not work with them**.
    d. There **is no** □PA/□APRN/ □Pharmacist/□ Other Physician Extender ***(please specify:***_____***)*** **in my** □ primary and/or □ secondary practice.

Patient Demographics

27. Do you limit the number of new: ***(please check all that apply)***

□ Medicaid Patients □ Medicare Patients □ Self Pay/Uninsured
□ Other New Insured Patients □ Not Limiting

28. What percentage of your patients are: ***(please make sure the percentages add up to a 100%)***

Medicaid _____ % Self Pay/Uninsured _____ %
Medicare _____ % Private Insurance/Managed Care _____ %
Charity Care _____ % VA/Tri-Care (CHAMPUS) _____ %

29. Please categorize the following issues in providing patient care **<u>in your practice</u>**:
    a. Patients' inability to pay for needed care:
       □ Major Issue □ Minor Issue □ Not an Issue □ Not Applicable
    b. Insurance companies rejecting care decisions:
       □ Major Issue □ Minor Issue □ Not an Issue □ Not Applicable
    c. Insurance companies denying/delaying claims:
       □ Major Issue □ Minor Issue □ Not an Issue □ Not Applicable
    d. Language/cultural barriers in patient communication:
       □ Major Issue □ Minor Issue □ Not an Issue □ Not Applicable
    e. Difficulties obtaining referral appointments with other doctors for your patients
       □ Major Issue □ Minor Issue □ Not an Issue □ Not Applicable

30. Do you provide any charity care outside your regular practice settings? □ Yes □ No
    a. If yes, how many hours do you provide charity care: _____ hrs
       □ **per week** or □ **per month** or □ **per year** ***(please check the unit that applies)***
    b. Where do you provide charity care? _____

Thank you for your participation. Please return the survey in the enclosed envelope.

APPENDIX C – ACRONYM & ABBREVIATION GUIDE

AACAP: American Academy of Child and Adolescent Psychiatry
AACOM: American Association of Colleges of Osteopathic Medicine
AACOMAS: American Association of Colleges of Osteopathic Medicine Application Service
AAD: American Academy of Dermatology
AAMC: American Association of Medical Colleges
AAN: American Academy of Neurology
AANS: American Association of Neurological Surgeons
AAO-HNS: American Academy of Otolaryngology – Head and Neck Surgery
AAOS: American Board of Orthopedic Surgeons
ABMS: American Board of Medical Specialties
ABNS: American Board of Neurological Surgeons
ACEP: American College of Emergency Physicians
ACGME: Accreditation Council for Graduate Medical Education
ACOEM: American College of Occupational and Environmental Medicine
ACR: American College of Radiology
ACR: American College of Rheumatology
AMA: American Medical Association
AMCAS: American Medical College Application Service
APRN: Advanced Practice Registered Nurse
ASCO: American Society of Clinical Oncology
AUA: American Urological Association
BHPR: Bureau of Health Professions
CNM: Certified Nurse Midwife (APRN Category)
CNS: Certified Nurse Specialist (APRN Category)
COGME: Council on Graduate Medical Education (Formerly GMENAC)
CRNA: Certified Registered Nurse Anesthetist (APRN Category)
DHHS: Department of Health and Human Services
DWS: Department of Workforce Services
FEHBP: Federal Employees Health Benefit Program
FTE, Standardized: Full Time Equivalent (20 hrs/wk=0.5FTE;40 or more hrs/wk=1FTE)
FTE, Total Hours: Full Time Equivalent(20 hrs/wk=0.5FTE;40hrs/wk=1FTE;60hrs/wk=1.5FTE)
GAO: Government Accountability Office
GLC: Gastroenterology Leadership Council
GME: Graduate Medical Education
HIPAA: Health Insurance Portability and Accountability Act
HPSA: Health Professional Shortage Area
HRSA: Health Resources and Services Administration
IMG: International Medical Graduates
NP: Nurse Practitioner (APRN Category)
NPC: Non-Physician Clinician
NRMP: National Resident Matching Program
OPM: Office of Personnel Management
PA: Physician Assistant
PEHP: Public Employees Health Plan, Utah

RRC: Residency Review Committee
SEARCH: Student/Resident Experiences and Rotations in Community Health
UMEC: Utah Medical Education Council
Utah DOH: Utah Department of Health
Utah DOPL: Utah Division of Occupational and Professional Licensing

APPENDIX D – BIBLIOGRAPHY

American Academy of Family Physicians. (2012). *Rural Practice, Keeping Physicians In (Position Paper).* Retrieved March 2012, from American Academy of Family Physicians: http://www.aafp.org/online/en/home/policy/policies/r/ruralpracticekeep.html

American Association of Colleges of Osteopathic Medicine (AACOM). (2008-11). *Student Enrollment.* Retrieved December 14, 2011, from http://www.aacom.org/data/applicantsmatriculants/Documents/Applicants%20by%20gender%206-17-2011.xls; http://www.aacom.org/data/graduates/Documents/Applications_Enrollment_and_Graduates_%20by_School.pdf

American Association of Medical Colleges (AAMC). (2010, August 26). *Table 38: Residency Applicants by Specialty and Sex, 2010.* Retrieved September 07, 2011, from https://www.aamc.org/download/151226/data/table38erasspecialtybysex2010bb.pdf

American Association of Medical Colleges. (2011, November 9). *Table 3 & Table 4: Applicants & Matriculants to U.S. Medical Schools by State of Legal Residence, 2000-2011.* Retrieved November 15, 2011, from AAMC: https://www.aamc.org/download/159428/data/table3.pdf; https://www.aamc.org/download/159428/data/table4.pdf

American College of Radiation Oncology. (2011). *Introduction to Relative Value Units and How Medicare Reimbursement is Calculated.* Retrieved December 2011, from www.arco.org: http://www.acro.org/washington/RVU.pdf

American Medical Association (AMA). (2010). *Physician Characteristics and Distribution in the US 2010 Edition.* American Medical Association.

American Medical Association. (2005-2011). *CPT Application Process FAQ.* Retrieved December 2011, from AMA: http://www.ama-assn.org/ama/pub/physician-resources/solutions-managing-your-practice/coding-billing-insurance/cpt/cpt-process-faq/code-becomes-cpt.page

Bowman, R. (1994). *http://www.ruralmedicaleducation.org/rural_background.htm.* Retrieved March 2012, from www.ruralmedicaleducation.org: http://www.ruralmedicaleducation.org/rural_background.htm

Broxterman, M., & Smith, N. (2003, July-August). *Physician Recruiting: Costs and Rewards.* Retrieved November 10, 2011, from Partner First: http://partner1st.com/AnnouncementRetrieve.aspx?ID=10245

Bureau of Health Professions. (2006). *Physician Supply and Demand: Projections in 2020.* Washington D.C.: Health Resources and Services Administration.

Catinella, A., Magill, M., Thiese, S., Turner, D., Elison, G., & Baden, D. (2003). The Utah Rural Residency Study: A blueprint for evaluating potential sites for development of a 4-4-4 family practice residency program in a rural community. *Journal of Rural Health, 19*(2), 190-198.

Centers for Disease Control. (n.d.). *NCHS Data.* Retrieved from NCHS Data: http://www.cdc.gov/nchs/data/ahcd/preliminary2008/table18.pdf

COGME. (1996, November). *Summary of Eighth Report: Patient Care Physician Supply and Requirements: Testing COGME Recommendations.* Retrieved January 2011, from http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Reports/eighthreport.html

COGME. (1998). *Minorities in Medicine, Twelfth Report.* Washington D.C.: Health Resources and Services Administration.

COGME. (2005). *Physician Workforce Policy Guidelines for the United States, 2000-2020, Sixteenth Report.* Washington D.C.: Health Resources and Services Administration.

Cooper, R. (2004, November 2). Weighing the Evidence for Expanding Physician Supply. *Annals of Internal Medicine, 141*, 705-714.

Cooper, R., Getzen, T., McKee, H., & Laud, P. (2002). Economic and demographic trends signal an impending physician shortage. *Health Affairs, 21*, 140-154.

Cutchin, M. (1997). Physician retention in rural communities: the perspective of experiential place integration. *Health and Place, 3*(1), 25-41.

Cutchin, M., Norton, J., & Quan, M. (1994). To stay or not to stay: Issues in rural primary care retention in Eastern Kentucky. *Journal of Rural Health, 10*, 273-278.

Dill, M., & Salsberg, E. (2008). *American Association of Medical Colleges.* Retrieved September 2011, from http://www.selhs.org/Provider%20Shortage.pdf: http://www.selhs.org/Provider%20Shortage.pdf

Dorsey, E., Jarjoura, D., & Rutecki, G. (2003). Influence of Controllable Lifestyle on Recent Trends in Specialty Choice by US Medical Students. *The Journal of American Medical Association, 290*(9), 1173-1178.

Goodman, D., Fisher, E., Bubolz, T., Mohr, J., Poage, J., & Wennberg, J. (1996, December). Benchmarking the US Physician Workforce: An Alternative to Needs-Based or Demand-Based Planning. *Journal of the American Medical Association, 276*(22), 1811-1817.

Governor's Office of Planning and Budget. (2008). *Governor's Office of Planning and Budget, 2008 Baseline Projections.* Retrieved September 15, 2011, from http://www.governor.utah.gov/dea/ERG/ERG2008/Selected%20Age.xls

Gregory, C., Grever, M., Kennedy, J., Kuzma, M., Saltzman, A., Wiernik, P., et al. (2009, December). The anticipated physician shortage: Meeting the nation's need for physician services. *The Journal of American Medicine, 122*(12), 1156-1162.

Hart, L., Wagner, E., Pirzada, S., Nelson, A., & Rosenblatt, R. (1997, January/February). Physician Staffing Ratios in Staff-Model HMOs: A Cautionary Tale. *Health Affairs, 16*(1).

Inglehart, J. (2008). Grassroots activism and the pursuit of an expanded physician supply. *New England Journal of Medicine, 358*(16), 1741-1749.

Kashnig C. (2003). Physician Recruitment Budgetary Planning. *Journal of the Association of Staff Physician Recruiters, 10*(3), 3-6.

Lohkamp, R. J., & Simmons, H. (1995, March). Physician Resource Planning Must Keep Pace With Evolving Markets. *Health Care Strategic Management, 13*(3), 16-21.

Medical Group Management Association. (2011). *Physician Compensation and Production Survey 2011 Report Based on 2010 Data.* MGMA.

Mitka, M. (2007). Looming shortage of physicians raises concerns about access to care. *The Journal of American Medical Association, 297*(10), 1045-1046.

National Conference of State Legislatures. (2003). *Practice Location of Physician Graduates: Do States Function as Markets?* Washington, DC.

O'Brien-Pallas, L., Baumann, A., Donner, G., Murphy, G., Lochhaas-Gerlach, J., & Luba, M. (2001). Forecasting Models for Human Resources in Health Care. *Journal of Advanced Nursing, 33*(1), 120-129.

Pathman, D., Steiner, B., & Jones, B. e. (1999). Preparing and retaining rural physicians through medical education. *Academy Medicine, 74*, 810-820.

Pathman, D., Steiner, B., Jones, B., & Konrad, T. (1999). Preparing and retaining rural physicians through medical education. *Academy Medicine, 74*, 810-820.

Roberfroid, D., Leonard, C., & Stordeur, S. (2009, February 13). Physician Supply Forecast: Better Than Peering in a Crystal Ball? *Human Resources for Health, 7*(10).

Rosenthal, T., & Danzo, A. (2000). Rural-based graduate medical education: an issue whose time has come. *Journal of Rural Health, 16*, 196-197.

Schwartz, M., Durning, S., Linzer, M., & Hauer, K. (2011). Changes in Medical Students' Views of Internal Medicine Careers From 1990 to 2007. *Archives of Internal Medicine, 171*(8), 744-749.

Schwartz, W., & Mendelson, D. (1990). No Evidence of an Emerging Physician Surplus: An Analysis of Changes in Physicians' Work Load and Income. *Journal of American Medical Association, 263*(4), 56-72.

Simmons, H., & Harris, J. (2004, December). Community-based Physician Need Planning Methodologies Evolve. *22(12)*. The Business Word Inc.

Solucient. (2004). *Physician Community Requirements in the 21st Century: The 2003 Physicians to Population Ratios*. Evanston, IL: Solucient.

Stinson, M., & Thurston, N. (2002, Spring). Racial Matching Among African-American and Hispanic Physicians and Patients. *Journal of Human Resources, 37*(2), 410-28.

U.S. Health Resources and Services Administration (HRSA). (n.d.). *Guidelines for Primary Medical Care/Dental HPSA Designation*. Retrieved 11 23, 2011, from http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/medicaldentalhpsaguidelines.html

United Health Foundation. (2010). *United Health Foundation* . Retrieved September 07, 2011, from America's Health Rankings: http://www.americashealthrankings.org/yearcompare/2009/2010/UT.aspx

Utah Governor's Office of Planning and Budget. (2011, July). *Census Brief: Cities and Counties of Utah.* Retrieved September 28, 2011, from http://www.governor.utah.gov/dea/Census/2010/Cities%20and%20Counties.pdf

Utah Medical Education Council. (2010). *Utah's Physician Assistant Workforce, 2010.* Salt Lake City.

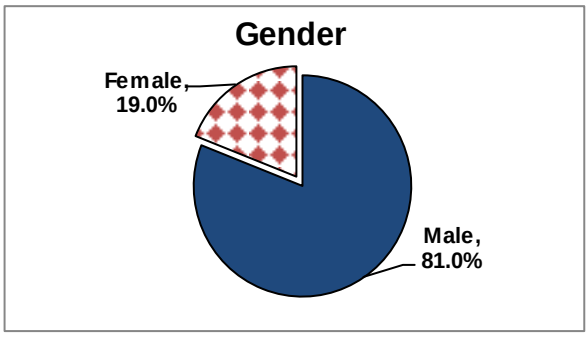
Weiner, J. (2004, February). Prepaid Group Practice Staffing and U.S. Physician Supply: Lessons For Workforce Policy. *Health Affairs*.

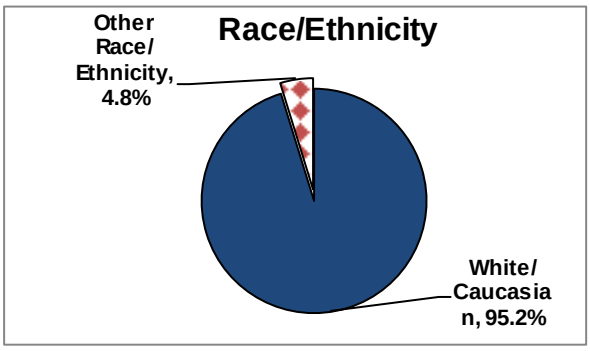
APPENDIX E – SPECIALTY PROFILES

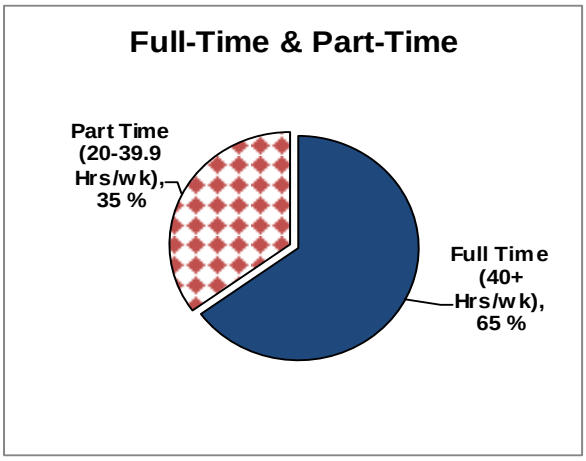
The specialty-specific analysis provided in this section of the report was compiled primarily through the use of the 2010 physician survey data. All graphs and charts have been developed using survey responses. In cases where external sources provided more accurate physician counts, the UMEC chose to 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.

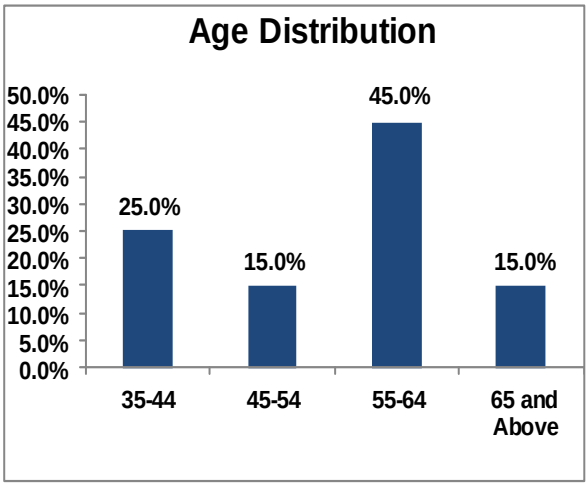
Specialty List

Allergy & Immunology 58
General Anesthesiology 61
Anesthesiology-Pain Management 64
Cardio Thoracic Surgery 67
Cardiology 69
Child & Adolescent Psychiatry 72
Critical Care Medicine 76
Dermatology 79
Emergency Care 82
Endocrinology & Metabolism 85
Family Practice 88
Gastroenterology 91
General Surgery 94
Geriatrics 97
Hematology Oncology 100
Infectious Disease 103
Internal Medicine, General 106
Internal Medicine, Pediatrics 109
Nephrology 111
Neurology 114
Obstetrics & Gynecology 117
Ophthalmology 120
Orthopedic Surgery 123
Otolaryngology 126
Pathology 129
Pediatrics 132
Physical Medicine & Rehabilitation 135
Plastic Surgery 138
Preventive Occupational Medicine 141
Psychiatry 144
Pulmonary Disease 147
Radiology, Diagnostic 150
Rheumatology 153
Urology 156





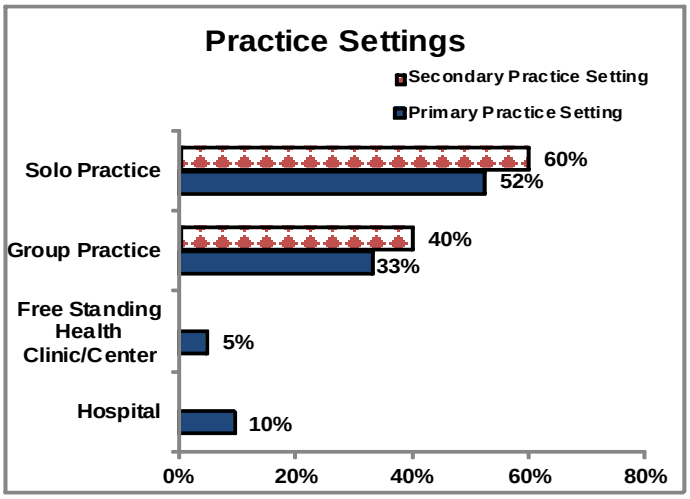


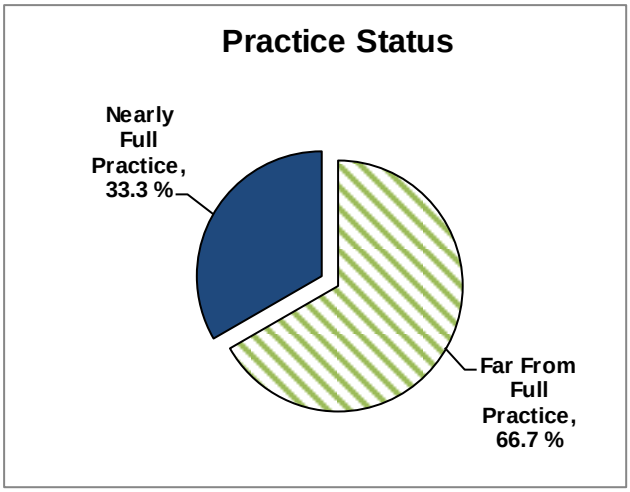


ALLERGY & IMMUNOLOGISTS:

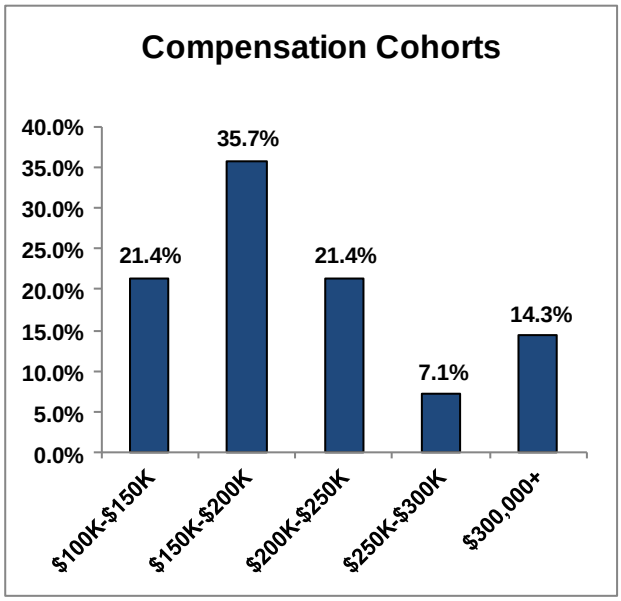
Count: 34 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 31
Total Hr. FTEs (60 hrs/wk= 1.5 FTE): 34
Average Hours per Week: 40
Median Annual Inc. adjusted for 40 hrs/wk: $228,571/yr.
Median Income reported by DWS: $140,998/yr.

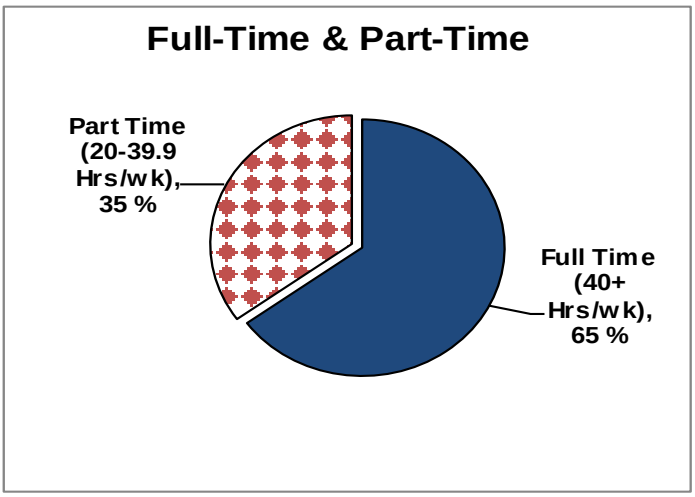
1. According to the UMEC 2010 survey data, there are 34 allergy and immunology specialists in Utah. This translates to a ratio of 1.2 physicians-to-100,000 populations, up from 1.02 in 2003.
2. Average age of an allergy and immunology physician in Utah is 55 years. About 60% of Utah allergy and immunologists are aged 55 years or more. Given the self-reported average age of retirement of 66.4 years for this group, Utah is looking at losing almost 60% of its allergy & immunology workforce in the next 10-12 years.
3. In 2003, data from the Utah physician survey indicated that there were no providers under the age of 45. This situation has improved. 25% of this workforce is now younger than 45 years. The average wait times reported by physicians have also improved since 2003. For a new patient, this is 12 days compared to the 19.4 days in 2003. For an established patient, it is 5 days compared to the 10.6 days in 2003.
4. In 2008 there were 4,259 physicians providing allergy & immunology patient care services in the United States (American Medical Association, 2010, p. 9). This equates to a ratio of approximately 1.4 physicians-to-100,000 population. (American Medical Association, 2010, p. 458) In 2003, the American Academy of Allergy Asthma & Immunology reported a ratio of about 1.2 physicians per 100,000 population, suggesting that the number of providers grew slightly faster than the national population over the same period.
5. At the national level, a 35% increase in demand for allergists - from 4,109 FTEs in 2006 to 5,558 FTEs in 2020, and a 6.8% of decline in supply - from 3,662 FTEs in 2006 to 3,413 FTEs in 2020 is projected for the allergy and immunology workforce. (American College of Allergy, Asthma & Immunology, 2008, p. 5)
6. Despite the improvement in its allergy and immunology workforce, Utah needs to prepare itself for a workforce shortage issue given the need to replace the retiring physicians, and the projection of increased demand for allergists nationally.

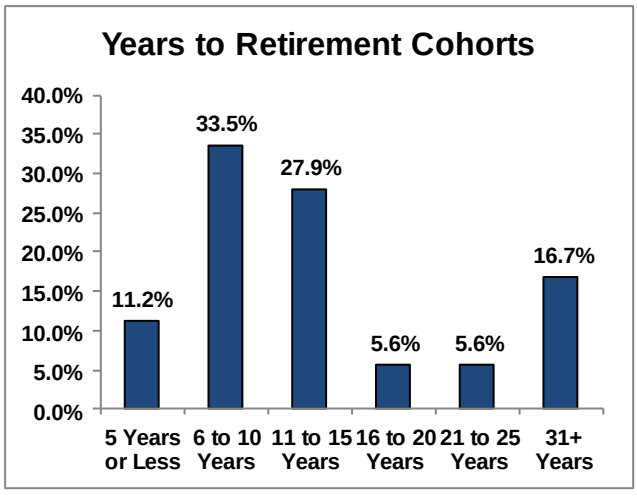


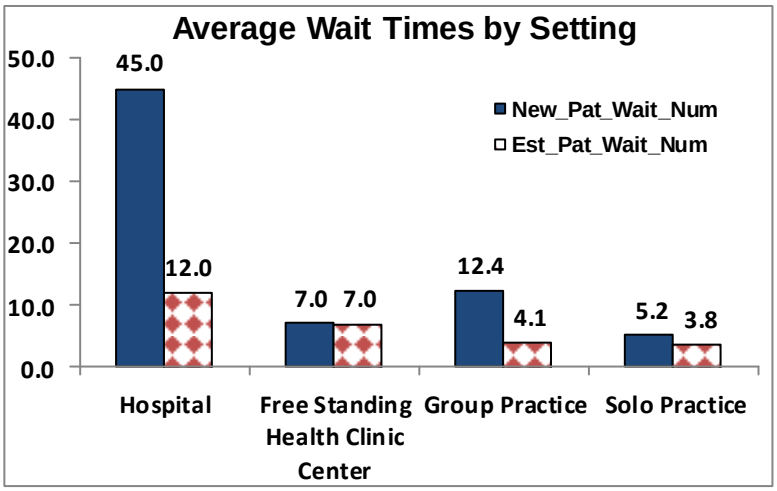


Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applica-ble
Patient Pay	9.8%	31.1%	34.4%	16.4%	8.2%
Insurance Rejecting Care	9.8%	39.3%	39.3%	4.9%	6.6%
Insurance Delaying and/or Denying	9.8%	45.9%	27.9%	6.6%	9.8%
Lan-guage/ Culture of patients	9.8%	3.3%	57.4%	23.0%	6.6%
Referrals	9.8%	13.1%	31.1%	37.7%	8.2%









43% of physicians limit Medicaid patients they accept, 14% limit Medicare patients they accept, 4.8% limit insured patients that they can accept and 43% said they do not limit any of these patients.

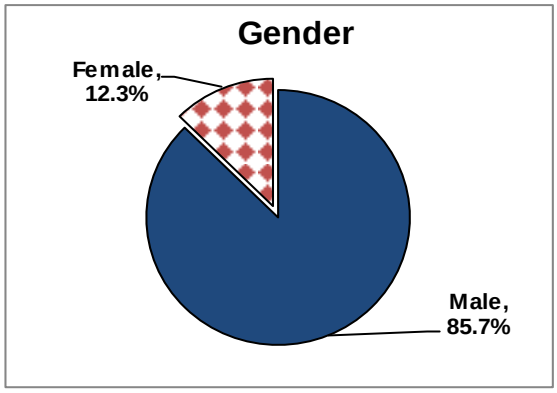
Patient Age Cohort	O/P	I/P
0-19	30.4%	0.3%
20-64	36.1%	7.5%
65-84	14.1%	6.8%
85+	7.1%	0.5%

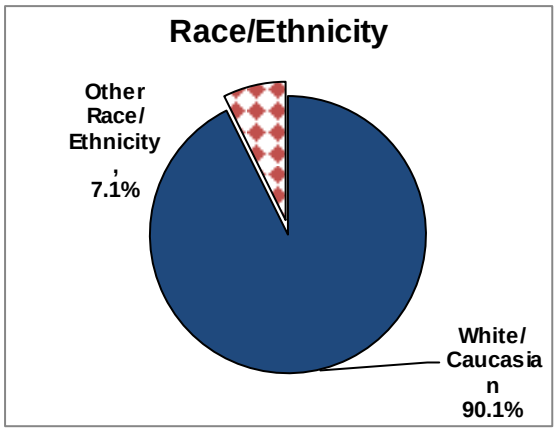
% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	14.3%	0.0%	33.3%	9.5%	0.0%	28.6%
Less than 25% Patients	71.4%	85.7%	57.1%	81.0%	9.5%	61.9%
25-50% of Patients	4.8%	4.8%	0.0%	0.0%	4.8%	0.0%
50-75% of Patients	0.0%	0.0%	0.0%	0.0%	42.9%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	0.0%	33.3%	0.0%
100% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

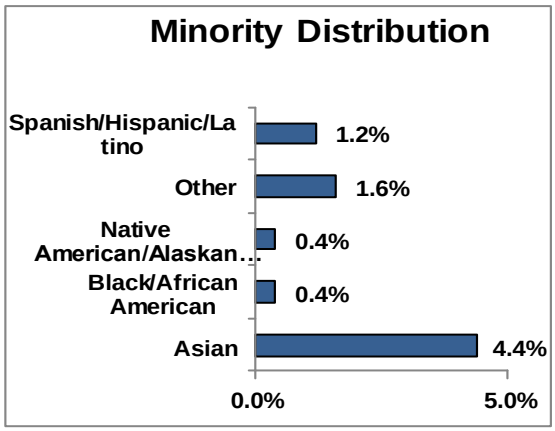
Works Cited

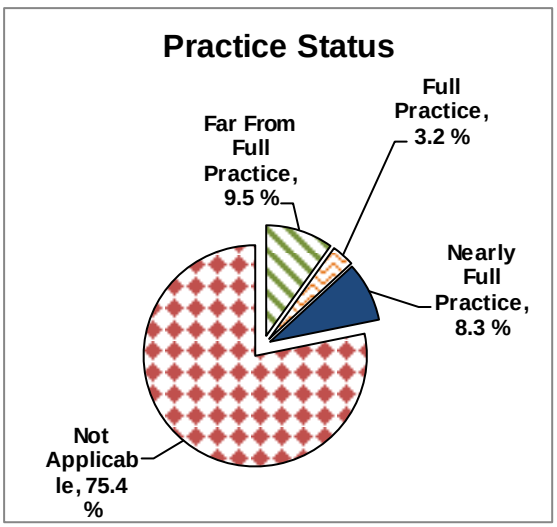
American College of Allergy, Asthma & Immunology. (2008). *America Faces Allergy/Asthma Crisis.* Arlighton Heights: American College of Allergy, Asthma & Immunology.

American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.





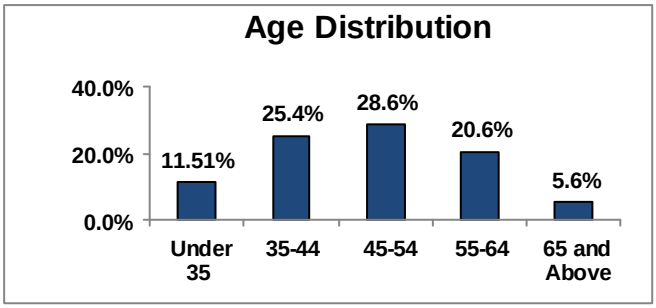




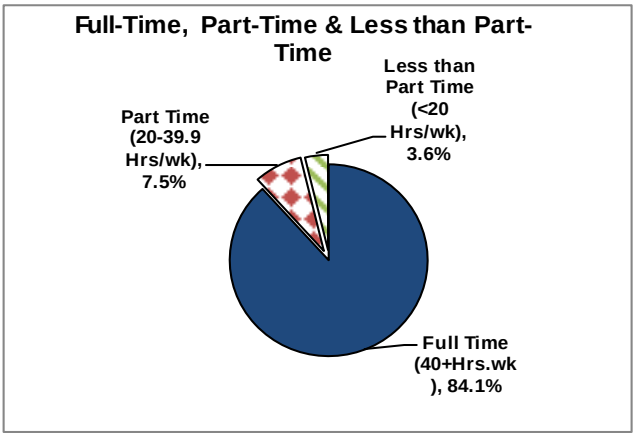
GENERAL ANESTHESIOLOGY:

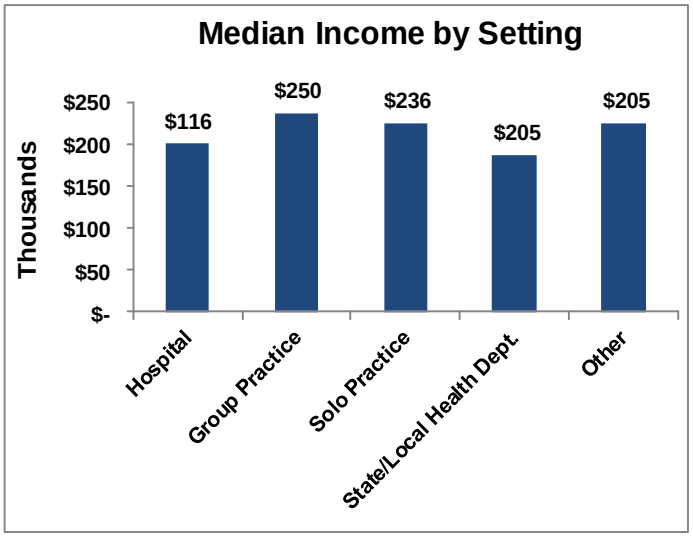
Count: 409 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 389
Total Hr. FTEs (60 hrs/wk=1.5FTE): 530
Average Hours per Week: 52
Median Ann. Income adj. for 40 hrs/wk: $200,000/yr;
Median Ann. Income reported by DWS: $225,000/yr

1. According to AMA, Utah had 380 anesthesiologists in 2008, or 1 provider for every 7,201 Utahns. (American Medical Association, 2010, p. 142) The UMEC 2010 survey data indicates that Utah has 409 general anesthesiologists, translating into 14.6 providers per 100,000 population or one provider per 6,847 Utahns. This suggests a growth rate of about 3.8% annually.
2. In 2009, the Anesthesia Quality Institute reported a shortage of 8,406 FTE anesthesiologists in the United States. The same report predicted that this shortage of anesthesiologists would increase to 14,000 anesthesiologists by the year 2020 (Anesthesia Quality Institute, 2009, p. 8). Research suggests that by 2020 there will be a shortage of anesthesiologists but the profession will see a surplus of Certified Registered Nurse Anesthetists (CRNAs) (Fonseca, Kumar, Daugherty, & Michaud, 2010, p. XV).
3. Nationally, the AMA reports 39,719 anesthesiologists (2008). (American Medical Association, 2010, p. 21) This translates to a provider -to-100,000 population ratio of 13.
4. The American Association of Nurse Anesthetists data indicated 44,000 CRNAs in the United States, which contributed immensely to this specialty. (Certified Registered Nurse Anesthetists at a Glance, 2011) There are 41,693 anesthesiologists practicing in the U.S. (Anesthesia Quality Institute, 2009, p. 7) According to a 2011 UMEC APRN survey, Utah has 231 CRNAs, a 14.4% annual growth rate.



No. of Utah Factors	Utah Up-bringing	Utah Medical School	Utah Resi-dency	Number of Physicians	Percent in Utah Practice
0	No	No	No	70	17%
1	Yes	No	No	34	8%
	No	Yes	No	10	2%
	No	No	Yes	96	23%
2	Yes	Yes	No	44	11%
	Yes	No	Yes	39	10%
	No	Yes	Yes	23	6%
3	Yes	Yes	Yes	86	21%
Unknown				7	2%
Total				409	100%

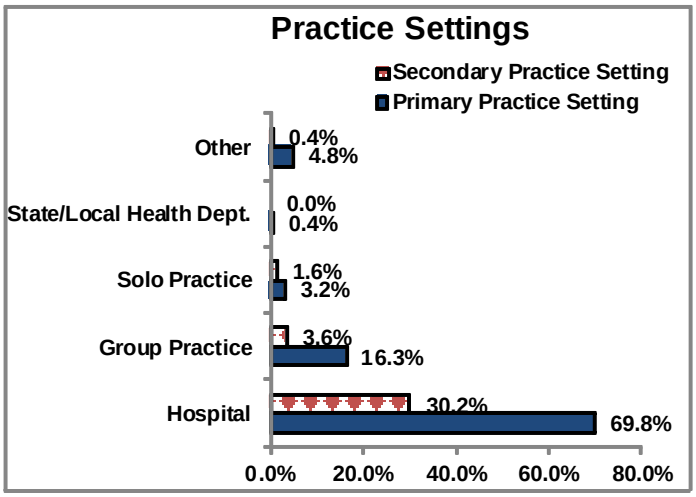




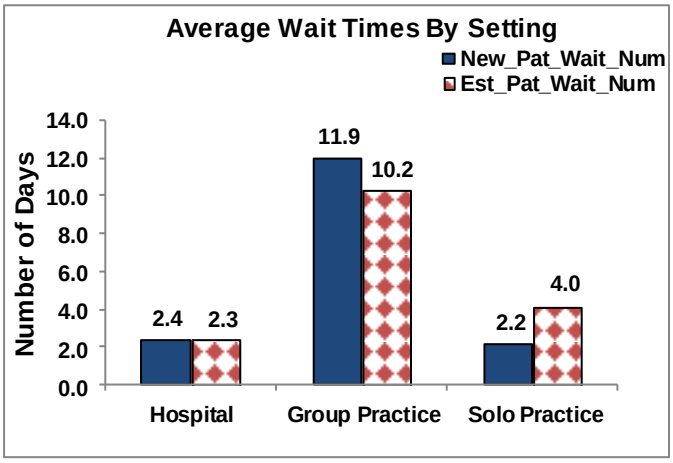
Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applica-ble
Patient Pay	8.7%	17.1 %	33.3%	20.2%	20.6%
Insurance Rejecting Care	9.1%	14.3 %	33.3%	19.4%	23.8%
Insurance Delaying and/or Denying	10.3%	22.6 %	34.9%	14.3%	17.9%
Language/ Culture of patients	8.7%	5.2%	57.5%	17.1%	11.5%
Referrals	11.5%	2.0%	14.7%	31.0%	40.9%

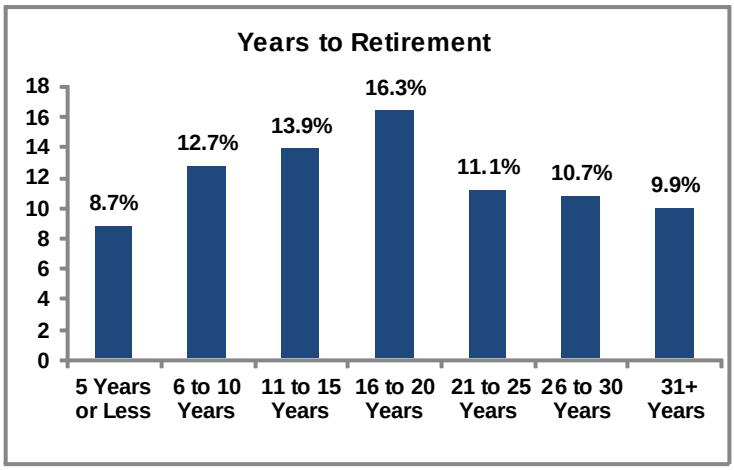
The median annual income for general anesthesiologists is $250,000. When adjusted for hours worked, the median annual income is $200,000 per year per FTE (40 hours per week, 52 weeks per hour). A general anesthesiologist in Utah works, on average, 51.8 hours per week.

Patient Age Cohort	O/P	I/P
0-19	14.1%	10.4%
20-64	43.1%	28.9%
65-84	20.1%	21.4%
85+	6.1%	5.4%



Local Health District	% Providers
Bear River	6.3%
Central	-
Davis	7.9%
Salt Lake	36.9%
Southeastern	1.2%
Southwest	5.2%
Summit	2%
Tooele	-
Tri-County	-
Utah	11.1%
Wasatch	-
Weber-Morgan	6.3%





% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	5.6%	7.9%	19.4%	7.5%	5.6%	29.4%
Less than 25% Patients	44.0%	26.3%	42.1%	51.6%	4.8%	31.0%
25-50% of Patients	11.1%	25.8%	0.0%	1.6%	32.5%	0.4%
50-75% of Patients	0.8%	0.8%	0.0%	0.8%	17.5%	0.4%
75-99% of Patients	0.0%	0.4%	0.0%	0.0%	1.2%	0.4%
100% of Patients	N/A	N/A	N/A	N/A	N/A	N/A
Missing	38.50%	38.5%	38.5%	38.5%	38.5%	38.5%

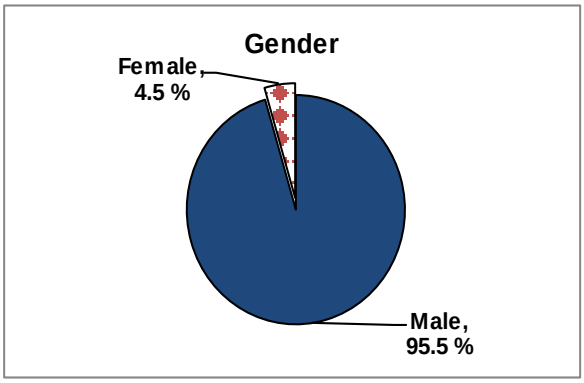
Works Cited

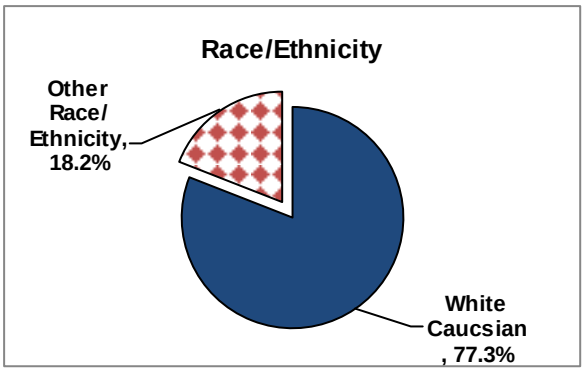
American Association of Nurse Anesthetists. (2011). *Certified Registered Nurse Anesthetists (CRNAs) at a Glance.* Retrieved August 31, 2011, from http://www.aana.com/ataglance.aspx

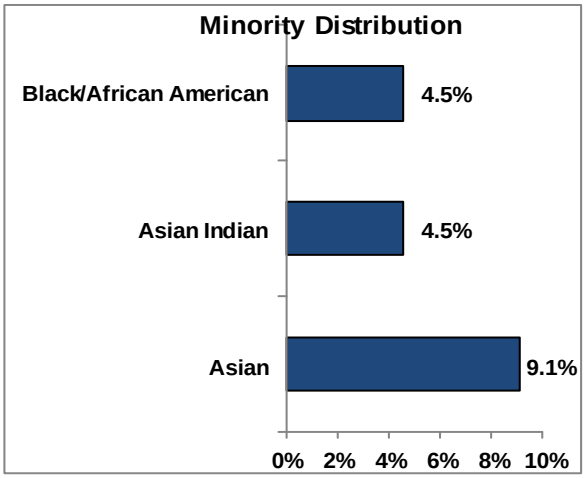
American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* American Medical Association.

Anesthesia Quality Institute. (2009). *Anesthesia in the United States 2009.*

Fonseca, R., Kumar, K., Daugherty, L., & Michaud, P.-C. (2010). *An Analysis of the Labor Markets for Anesthesiology.* Retrieved 9 7, 2010, from www.rand.org: http://www.rand.org/content/dam/rand/pubs/technical_reports/2010/RAND_TR688.pdf



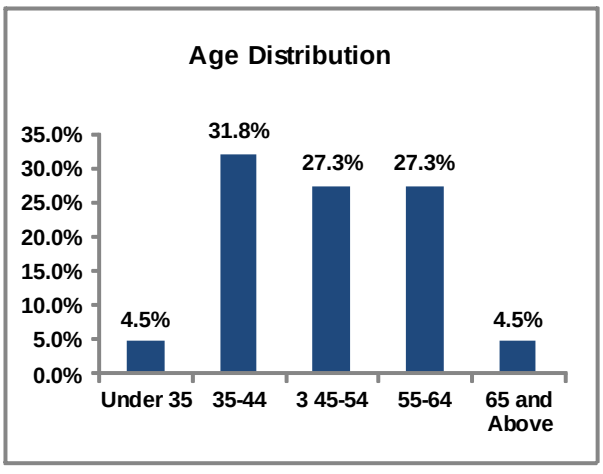


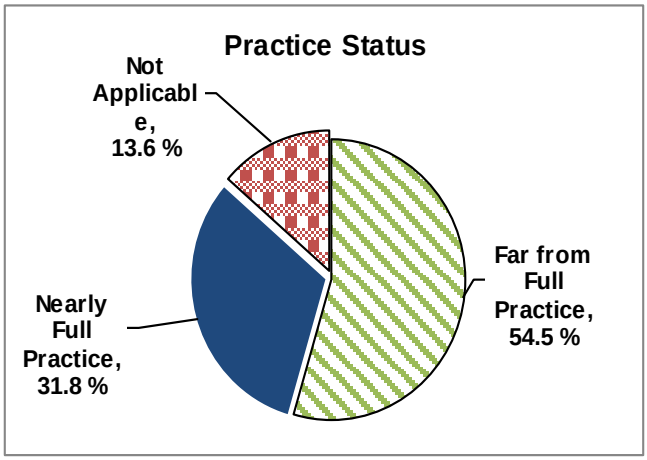


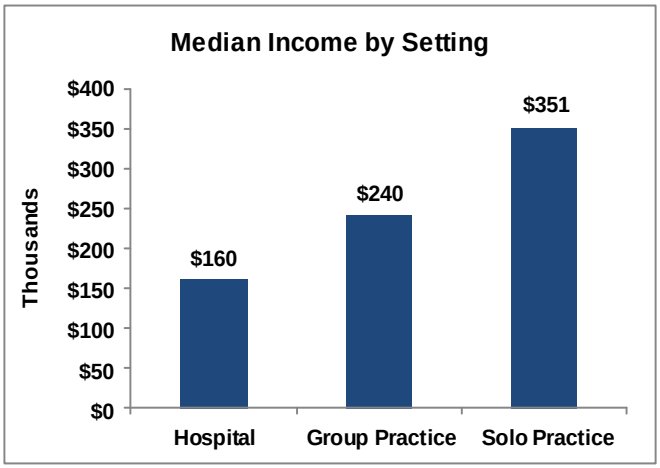
Anesthesiology-Pain Management

Count: 36 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 36
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 44
Average Hours per Week: 50
Median Ann. Income adj. for 40 hrs/wk: $250,000/yr
Median Ann Income reported by DWS: $193,011/yr

1. Utah currently has 36 anesthesiologists practicing pain medicine. This equates to a physician-to-population ratio of 1.3. It is difficult to determine how it compares to the national average because pain management data is often combined with all other counts of anesthesiology.
2. Nationally there are 93 fellowship programs in this specialty, and together they train 288 fellows. (Accreditation Council for Graduate Medical Education, 2010, p. 12) The Utah anesthesiology pain management fellowship trains 2 fellows per year and retains approximately 50% of its program graduates.
4. Wait times for new and established patients have greatly improved since 2003 for this specialty, from more than 90 days in 2003 to 11 days in 2010 for new patients and from 15 days to 6 days for established patients, suggesting an improvement in the workforce availability. This could be due to expanded services of the growing general anesthesiologist workforce in the state or due to the increased availability of Certified Registered Nurse Anesthetists (CRNA) in Utah since 2003.

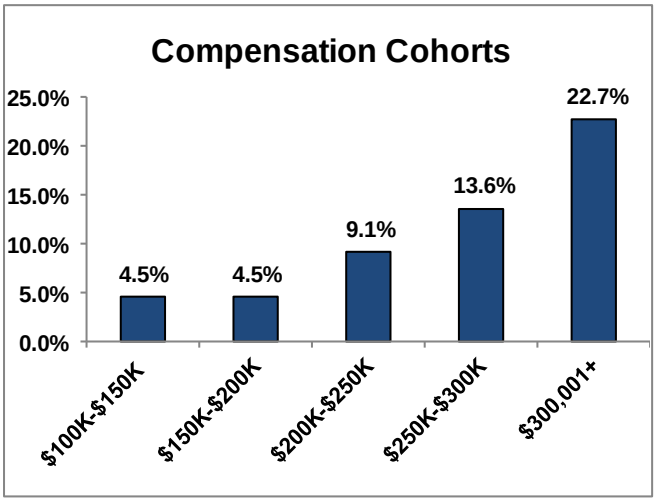




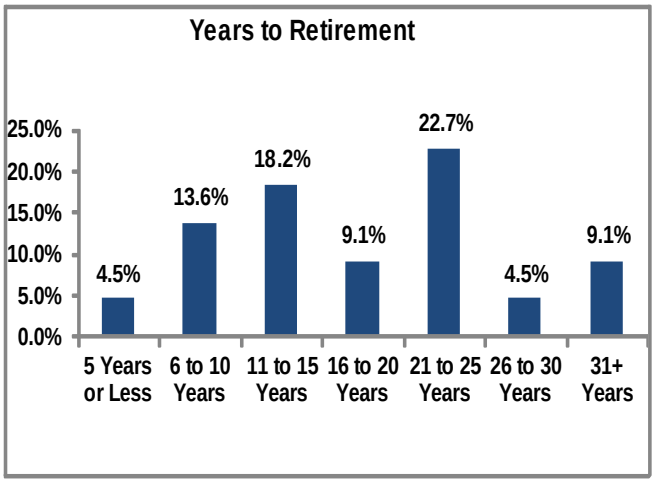


Local Health District	Percentage Physicians
Salt Lake	50.0%
Utah	27.3%
Washington	13.6%
Weber	4.5%

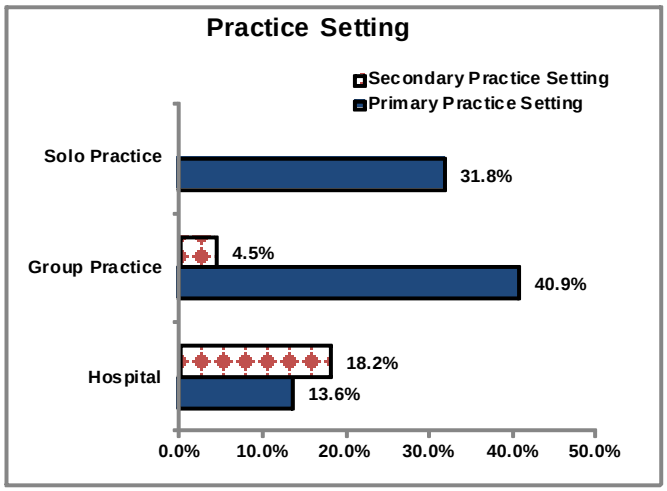
The median annual income for anesthesiology pain management specialists is $300,000. When adjusted for hours worked, the median annual income is $250,000 per year per FTE (40 hours per week, 52 weeks per year). A pain management anesthesiologist in Utah works, on average, 49.7 hours per week.

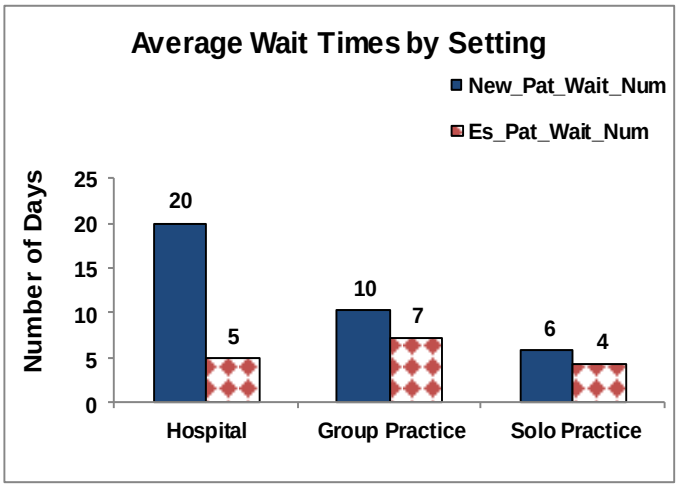


Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	4.5%	45.5%	31.8%	18%	0.0%
Insurance Rejecting Care	4.5%	63.6%	18.2%	13.6%	0.0%
Insurance Delaying and/ or Denying	4.5%	59.1%	27.3%	9.1%	0.0%
Language/ Culture of patients	4.5%	0.0%	40.9%	54.5%	0.0%
Referrals	9.1%	4.5%	27%	54.5%	4.5%



Patient Age Cohort	O/P	I/P
0-19	3.9%	6.1%
20-64	49.7%	6.6%
65-84	28.5%	6.4%
85+	11.8%	3%



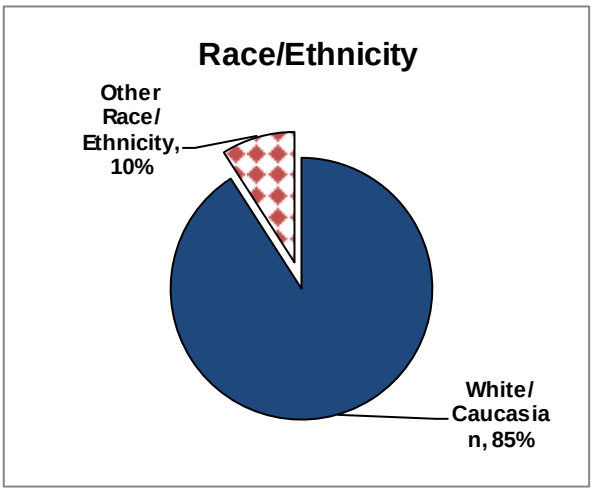


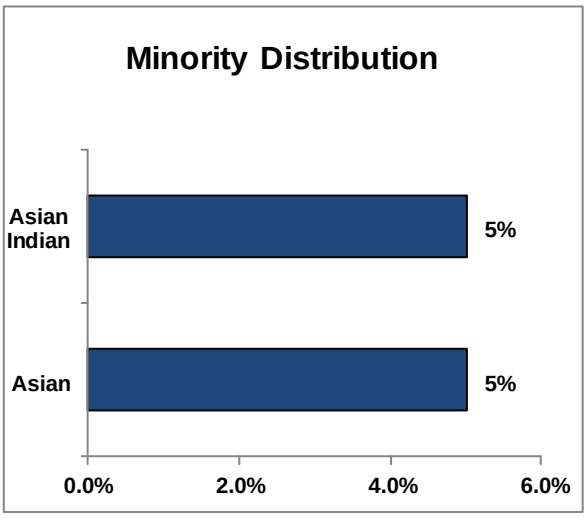
% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	36.4%	13.6%	54.5%	9.1%	13.6%	31.8%
Less than 25% Patients	36.4%	18.2%	22.7%	63.6%	4.5%	36.4%
25-50% of Patients	4.5%	36.4%	0.0%	4.5%	40.9%	4.5%
50-75% of Patients	0.0%	9.1%	0.0%	0.0%	18.2%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
100% of Patients	0.0%	0.7%	0.0%	0.0%	0.0%	4.5%

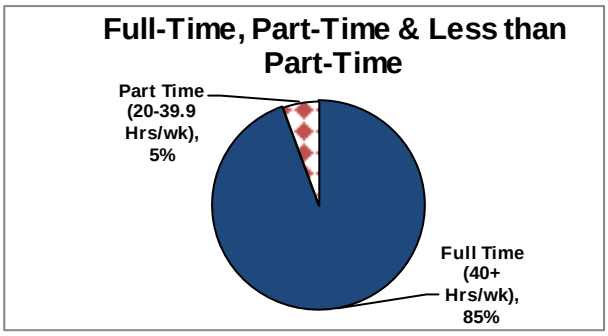
Works Cited

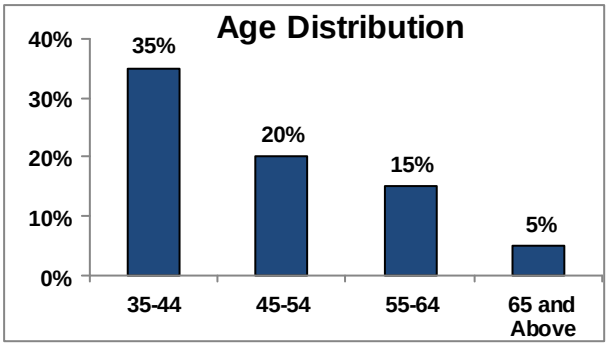
Accreditation Council for Graduate Medical Education. (2010). *Data Resource Book: Academic Year 2010-2011.*

Retrieved August 18, 2010, from ACGME: http://www.acgme.org/acWebsite/dataBook/2010-2011_ACGME_Data_Resource_Book.pdf





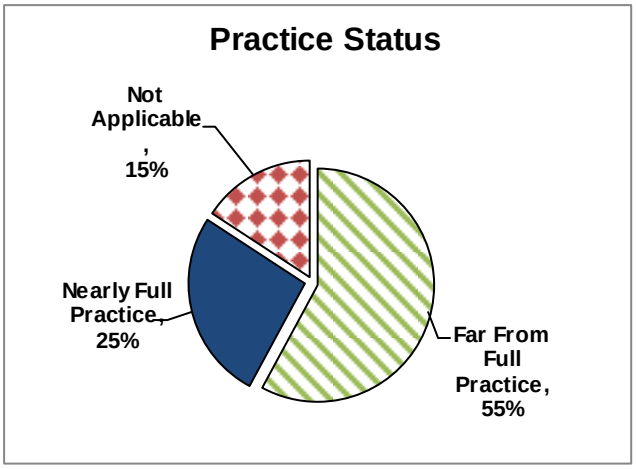


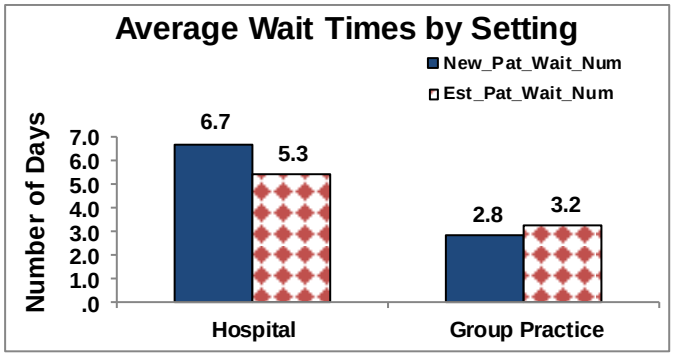


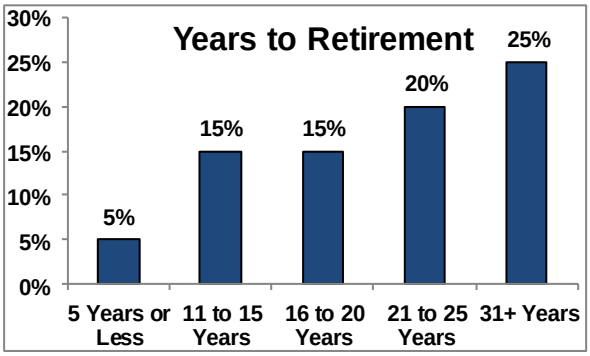
CARDIO-THORACIC SURGERY:

Count: 32 Physicians
Standardized FTEs (40 or more hrs/wk=1FTE): 32
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 53
Average Hours per Week: 65
Median Ann. Income adj. for 40 hrs/wk: $344,779/yr
Median Ann. Income reported by DWS: $227,550 /yr

1. According to the AMA, there were 4,620 thoracic surgeons in the nation in 2008. (American Medical Association, 2010, p. 26) This places the provider--to-100,000 population ratio at 1.5. Alternately, there are 65,932 people per provider in the nation.
2. There are 32 thoracic surgeons in Utah, placing the provider-to-100,000 population ratio at 1.1. Alternately, there are 87,503 people per provider in the state.
3. "The United States is facing a shortage of cardiothoracic surgeons within the next 10 years, which could diminish quality of care if non–board-certified physicians expand their role in cardiothoracic surgery or if patients must delay appropriate care because of a shortage of well-trained surgeons." (Grover, et al., 2009)
4. The UMEC demand study recognizes cardiothoracic surgery workforce as a specialty that needs to be watched. While there is no immediate shortage, the wait times have grown by double digit percentages since 2003 and the demand study model suggests there will be shortages in the near future.

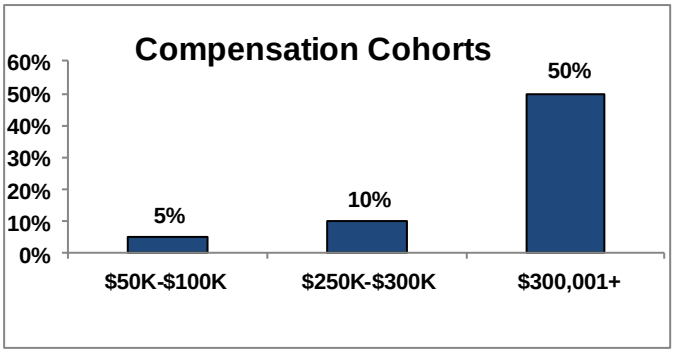






Local Health District	% Physicians
Davis	10.0%
Salt Lake	40.0%
Southwest	15.0%
Utah	10.0%
Weber-Morgan	20.0%

Issue	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	10.0%	20.0%	45.0%	15.0%
Insurance Rejecting Care	25.0%	40.0%	-	15.0%
Insurance Delaying and/or Denying	35.0%	35.0%	5.0%	10.0%
Language/Culture of patients	-	45.0%	30.0%	10.0%
Referrals	-	20.0%	55.0%	10.0%



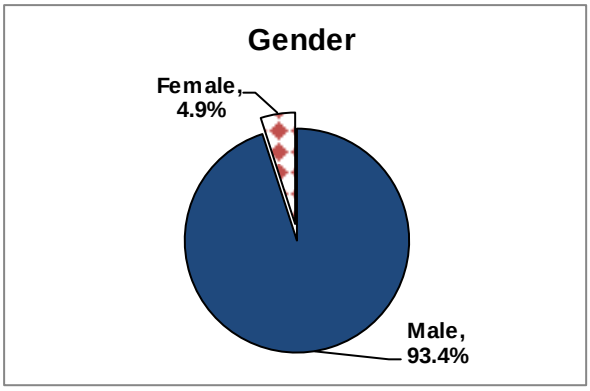
Patient Age Cohort	O/P	I/P
0-19	5.5%	5.5%
20-64	23.8%	22%
65-84	56%	48.1%
85+	6.8%	11.3%

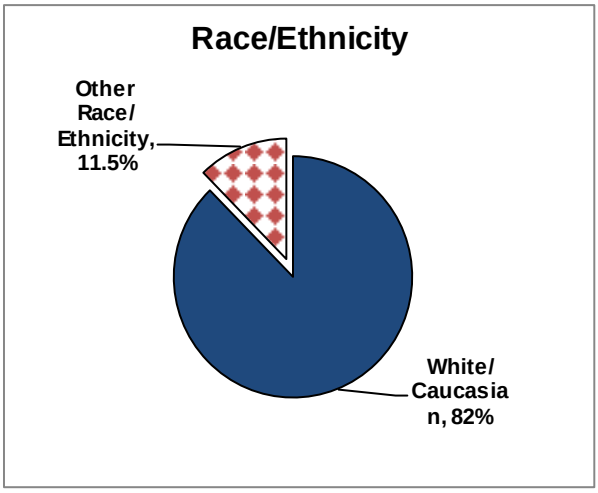
% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	15.0%	15.0%	20.0%	20.0%	10.0%	55.0%
Less than 25% Patients	55.0%	0.0%	55.0%	50.0%	45.0%	20.0%
25-50% of Patients	5.0%	20.0%	0.0%	5.0%	20.0%	0.0%
50-75% of Patients	0.0%	25.0%	0.0%	0.0%	0.0%	0.0%
75-99% of Patients	0.0%	15.0%	0.0%	0.0%	0.0%	0.0%
100% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Missing	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%

Works Cited

American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* American Medical Association.

Grover, A., Gorman, K., TM, D., Jonas, R., Lytle, B., Shemin, R., et al. (2009, July). Shortage of Cardiothoracic Surgeons Is Likely by 2020. *Circulation Journal of the American Heart Association, 120*, 488-94.

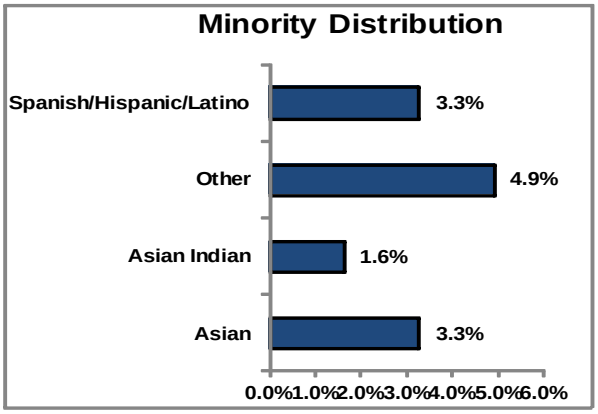


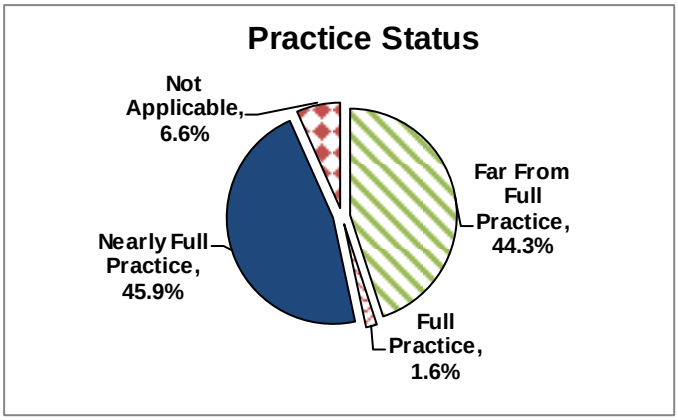


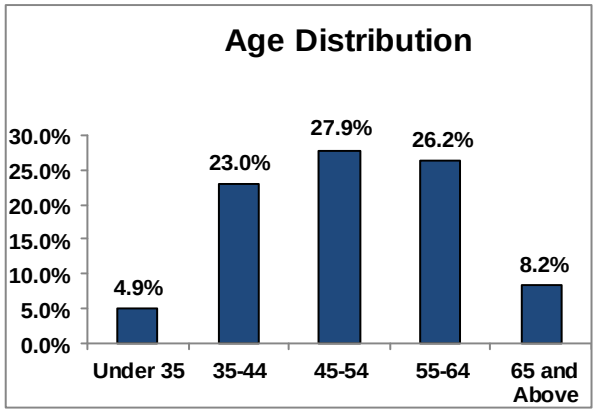
CARDIOLOGIST:

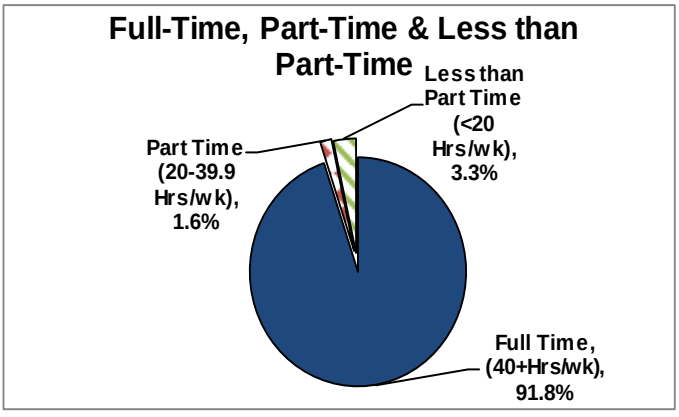
Count: 99 Physicians
Standardized FTEs (40 or more hrs/wk=1FTE): 96
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 144
Average Hours per Week: 58
Median Ann. Income adj. for 40hrs/wk: $200,000/yr
Median Ann. Income reported by DWS: $202,840/yr

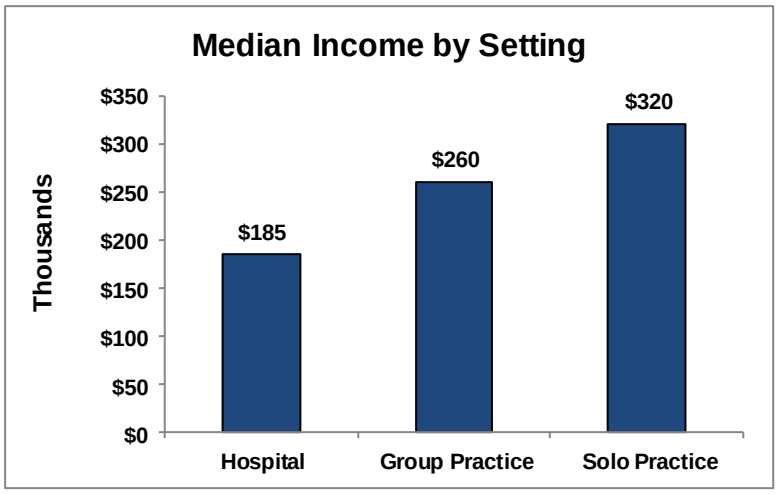
1. In 2001, the American College of Cardiology (ACC) conducted a review of the cardiology workforce and concluded that the U.S. is facing a serious shortage of cardiovascular specialists and that the , "number of practicing cardiologists would need to double between 2000 and 2050 to accommodate the anticipated number of new heart disease cases". (Rodgers, et al., 2009, p. 1195) The ACC has published reports stating that 40% of all U.S. cardiologists are 55 or older. (Rodgers, et al., 2009, p. 1197)
2. In the U.S. there are 22,723 cardiologists for a ratio of 7.5 per 100,000 population. (American Medical Association, 2010, p. 458)
3. According to the UMEC survey, there are 99 practicing cardiologists in Utah, for a ratio of 3.54 physicians –to-100,000 population or 28,286 Utahns per physician. 34.4% of this workforce is aged above 55 years and is set to retire in the next 10 years.



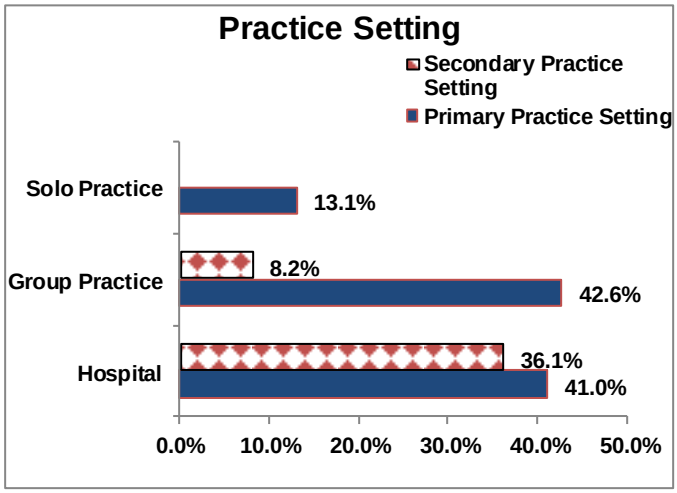


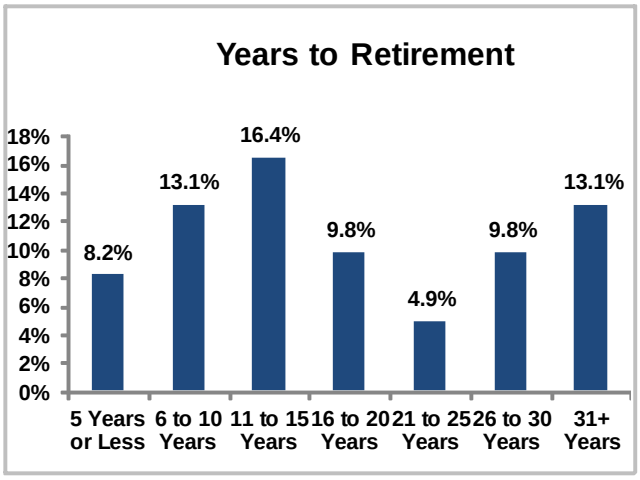






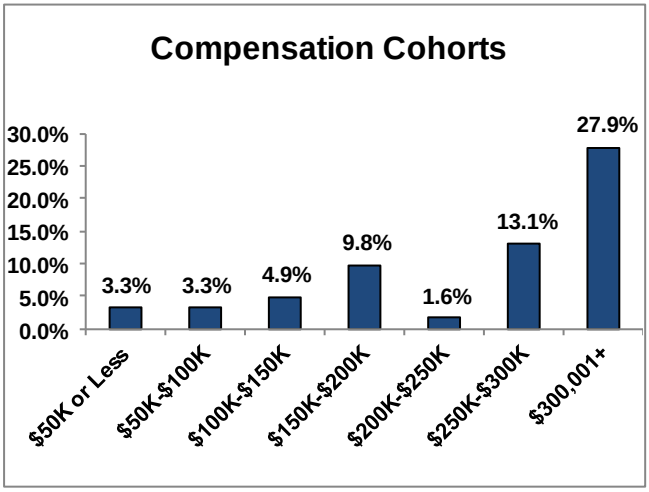
Local Health District	% Practitioners
Bear River	1.6%
Davis	1.6%
Salt Lake	47.5%
Southwest	8.2%
Tooele	1.6%
Utah	6.6%
Weber-Morgan	6.6%
Out of State	26.2%

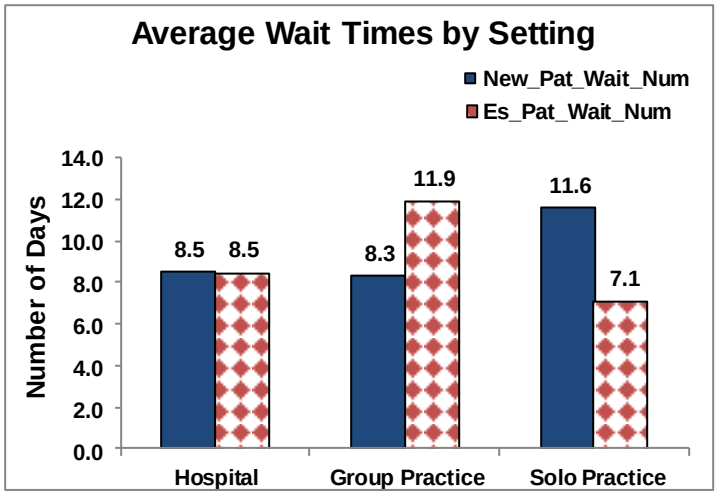




% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	4.9%	4.9%	36.1%	11.5%	1.6%	45.9%
Less than 25% Patients	67.2%	3.3%	41.0%	63.9%	21.3%	31.1%
25-50% of Patients	4.9%	39.3%	0.0%	1.6%	47.5%	0.0%
50-75% of Patients	0.0%	27.9%	0.0%	0.0%	4.9%	0.0%
75-99% of Patients	0.0%	1.6%	0.0%	0.0%	1.6%	0.0%
100% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Missing	23.00%	23.0%	23.0%	23.0%	23.0%	23.0%

Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	4.9%	36.1%	45.9%	9.8%	3.3%
Insurance Rejecting Care	3.3%	37.7%	49.2%	9.8%	0.0%
Insurance Delaying and/or Denying	4.9%	44.3%	45.9%	1.6%	3.3%
Language/ Culture of patients	1.6%	3.3%	59.0%	34.4%	1.6%
Referrals	1.6%	3.3%	50.8%	42.6%	1.6%



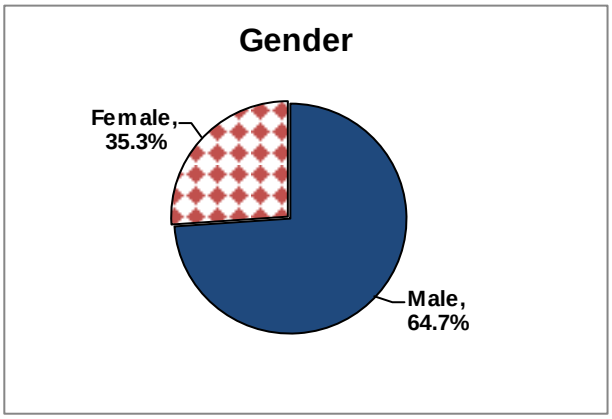


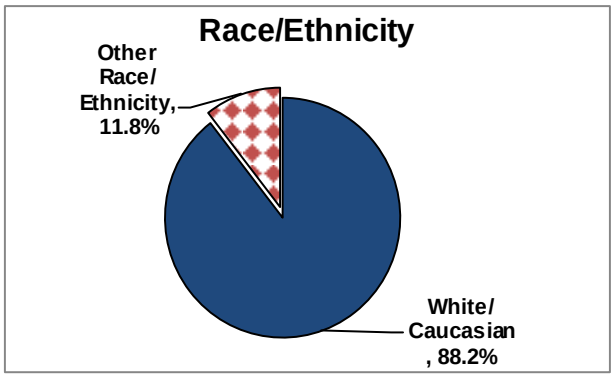
Patient Age Cohort	O/P	I/P
0-19	3.0%	4.1%
20-64	34.6%	29.9%
65-84	44.7%	38.7%
85+	14.1%	10.2%

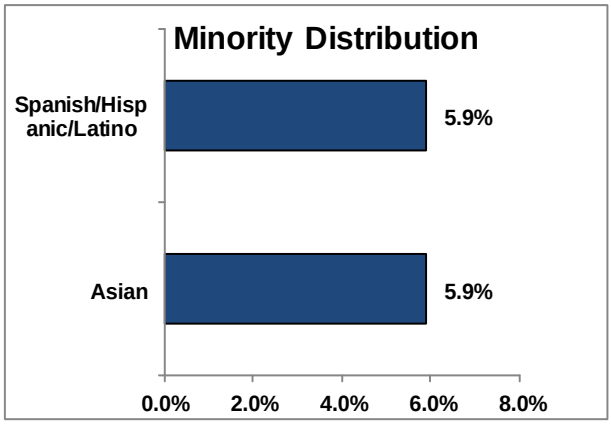
Works Cited

American Medical Association. (2010). *Physician Characteristics and Distribution in the U.S.*

Rodgers, G. P., Conti, J. B., Feinstein, J. A., Griffin, B. P., Kennett, J. D., Svati, S., et al. (2009). ACC 2009 Survey Results & Recommendations. *Journal of the American College of Cardiology, 54*, 1195-1208.



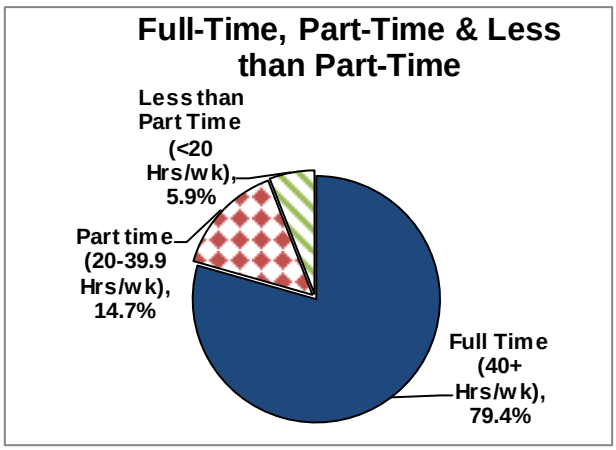


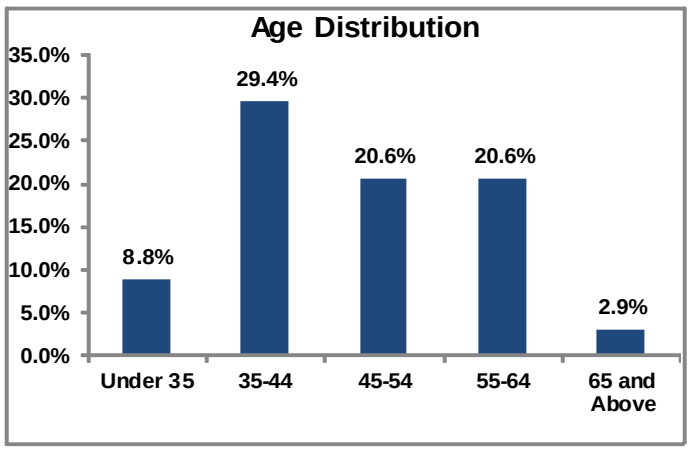


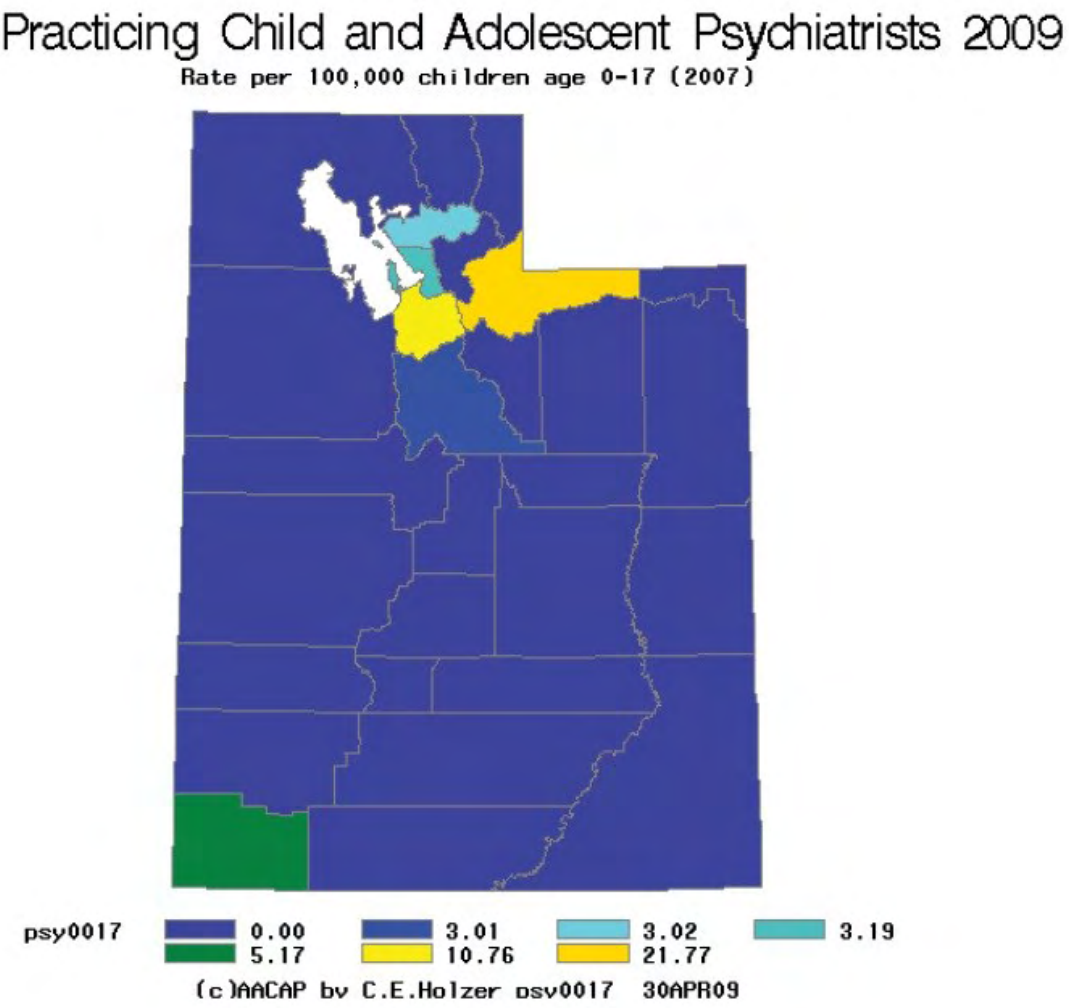
CHILD & ADOLESCENT PSYCHIATRY:

Count: 55 Physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 51
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 68
Average Hours per Week: 49
Median Ann. Income adj. for 40 hrs/wk: $128,000/yr
Median Ann. Income reported by DWS: $123,934/yr

1. The UMEC survey data indicate there are 55 child and adolescent psychiatrists in Utah, with a 6.4 provider-to-100,000 population aged 18 years or younger ratio.
2. In a different format, 55 child and adolescent psychiatrists in Utah implies there are 15,630 kids per provider in the state. About 20% of these kids will have diagnosable psychiatric disorders (AACAP Workforce Fact Sheet, 2012), bringing this ratio down to 3,126 kids per provider in Utah. Maldistribution of workforce makes this issue more complex.
3. While not all the 20% of kids in Utah require specialized psychiatric services, it should be noted that in Utah,
    a. suicide is the second leading cause of death for 11-18 year-olds.
    b. teens have the highest hospitalization rate for suicide attempts and
    c. among youth ages 12 to 17, 10% suffered an episode of Major Depression within one year (American Academy of Child and Adolescent Psychiatry, State Data, 2009).
4. "While the U.S. Bureau of Health Professions (2000) projects that the number of child and adolescent psychiatrists will increase by about 30% to 8,312 by 2020 only if funding and recruitment remain stable, this is far less than the estimated 12,624 needed to meet demand." (AACAP Workforce Fact Sheet, 2009)

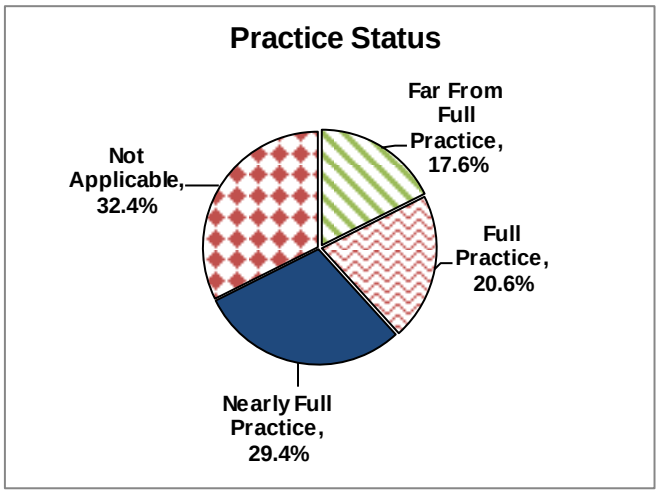


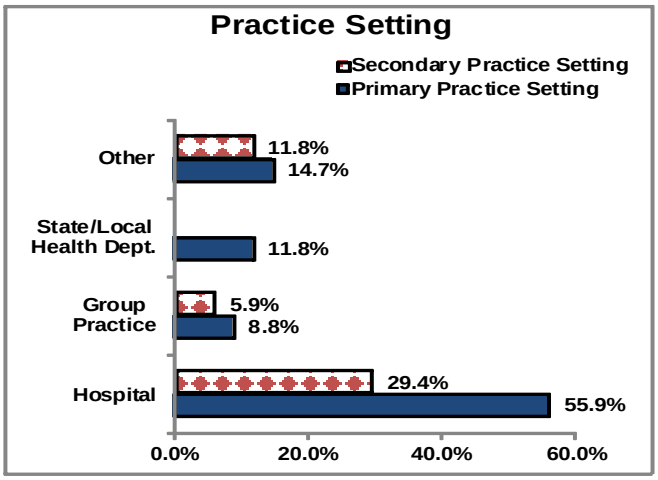


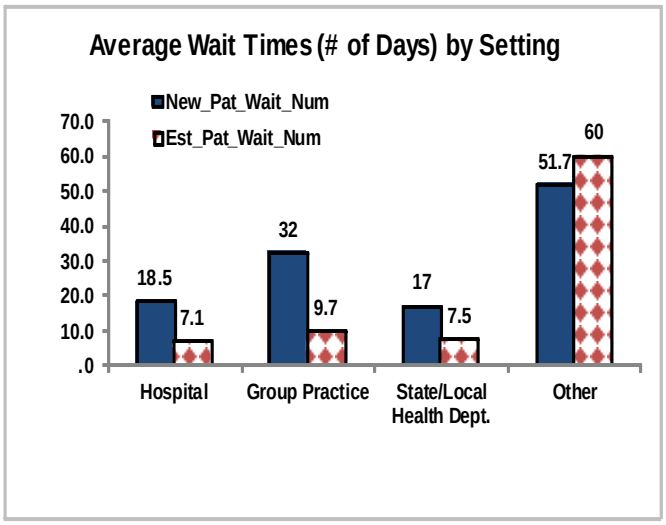


Local Health District	Percentage Physicians
Davis	5.9%
Salt Lake	67.6%
Southwest	2.9%
Utah	11.8%
Weber-Morgan	2.9%
Out of State	5.9%

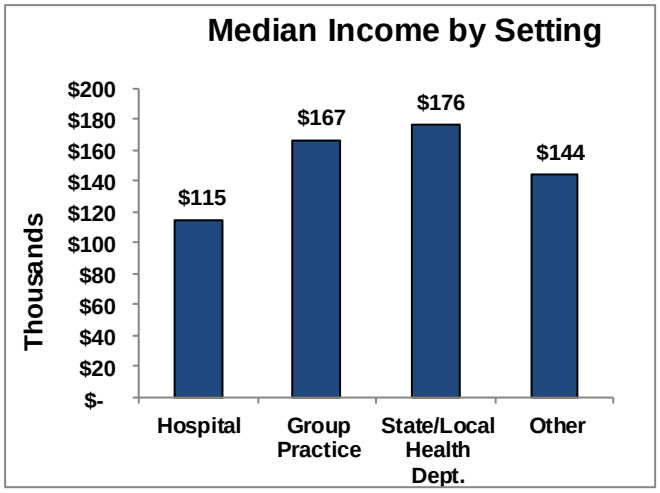
% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	17.6%	64.7%	41.2%	14.7%	14.7%	61.8%
Less than 25% Patients	17.6%	17.6%	41.2%	44.1%	20.6%	20.6%
25-50% of Patients	21%	0.0%	0.0%	11.8%	26.5%	0.0%
50-75% of Patients	8.8%	0.0%	0.0%	5.9%	11.8%	0.0%
75-99% of Patients	11.8%	0.0%	0.0%	5.9%	8.8%	0.0%
100% of Patients	5.9%	0.0%	0.0%	0.0%	0.0%	0.0%



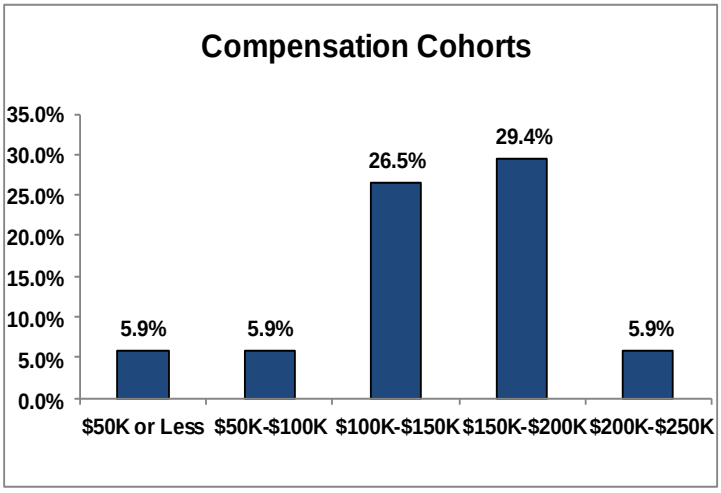


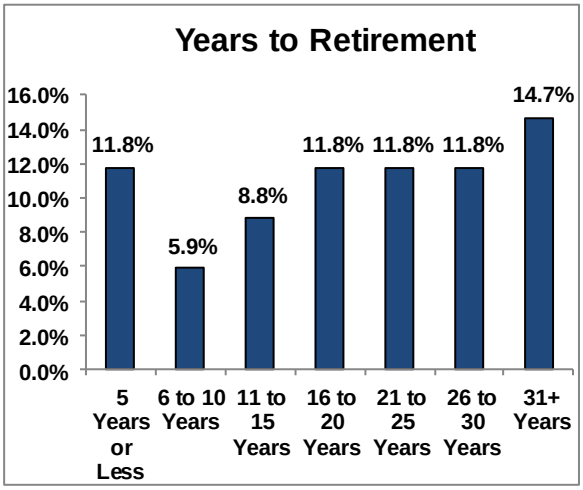


Patient Age Cohorts	O/P	I/P
0-19	66.9%	49.3%
20-64	10.2%	1%
65-84	0.6%	-
85+	-	-



Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	5.9%	61.8%	23.5%	-	8.8%
Insurance Rejecting Care	5.9%	67.6%	17.6%	-	8.8%
Insurance Delaying and/ or Denying	5.9%	61.8%	20.6%	-	11.8%
Language/ Culture of patients	5.9%	2.9%	55.9%	29.4%	5.9%
Referrals	8.8%	20.6%	38.2%	23.5%	8.8%





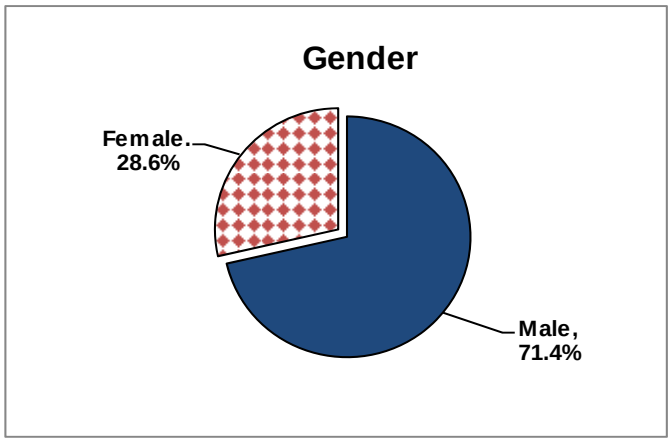
Works Cited

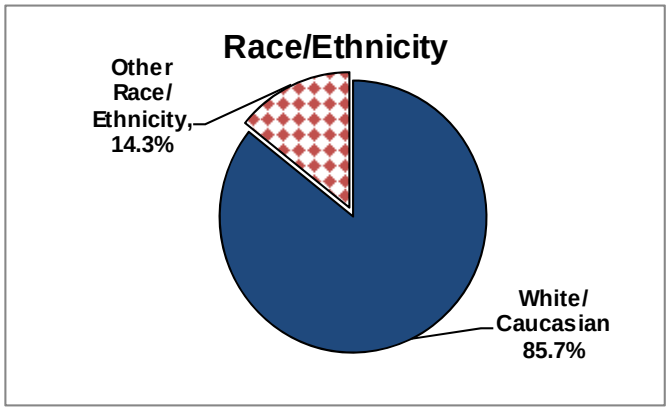
American Academy of Child & Adolescent Psychiatry (2009). *AACAP Workforce Fact Sheet*. Retrieved from: http://www.aacap.org/cs/root/legislative_action/aacap_workforce_fact_sheet

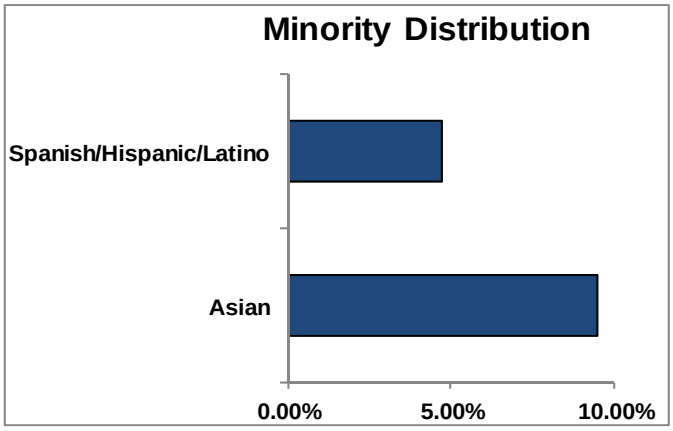
American Academy of Child & Adolescent Psychiatry (2012). *AACAP Workforce Fact Sheet*. Retrieved from: http://www.aacap.org/galleries/default-file/aacap_work_force_fact_sheet_2012.doc

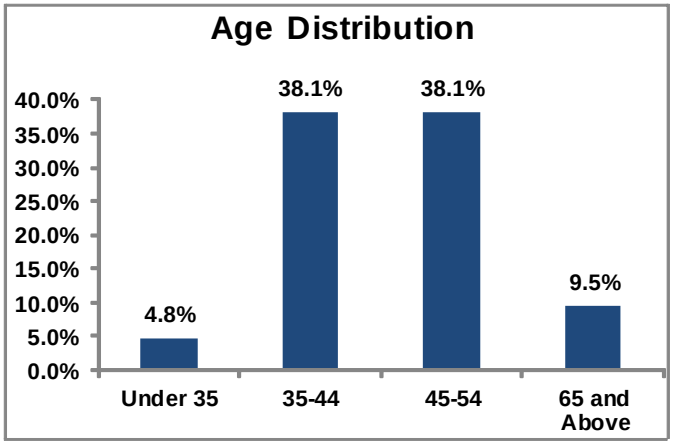
American Academy of Child and Adolescent Psychiatry (2009). *State Data.* Retrieved from: http://www.aacap.org/galleries/stateadvocacy/2010_Utah.pdf

American Medical Association (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.





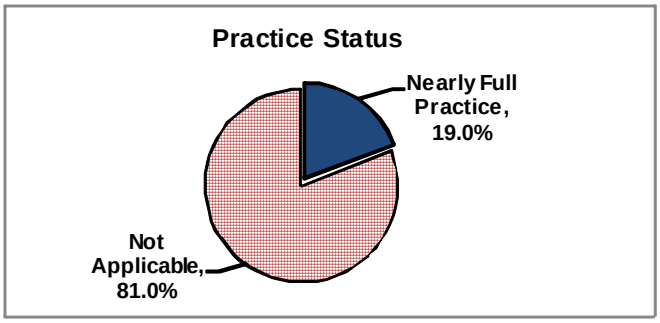




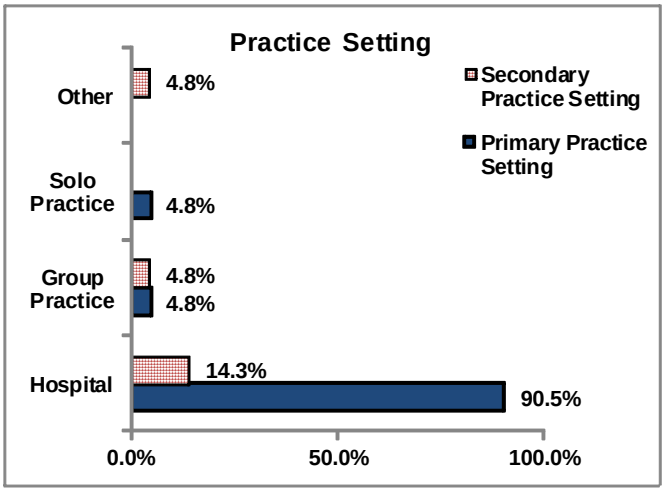
CRITICAL CARE MEDICINE:

Count: 34 physicians
Standardized FTES (40 or more hrs/wk=1FTE): 34
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 58
Average Hours per Week: 69
Median Ann. Income adj. for 40 hrs/wk: $171,429/yr
Median Ann. Income reported by DWS: $202,840/yr

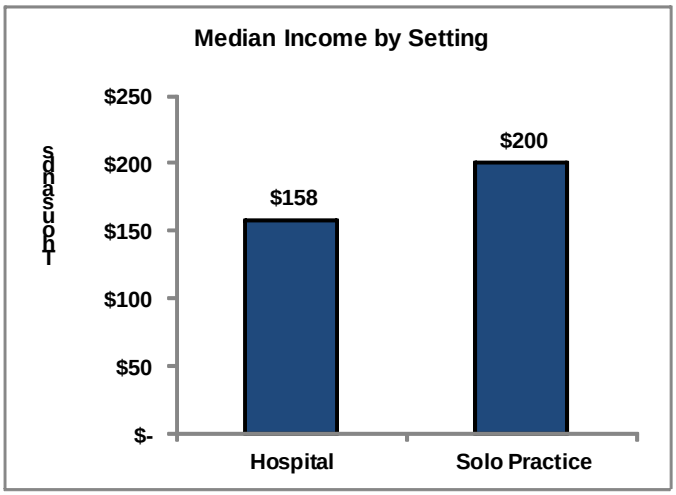
1. The field of critical care medicine is composed of physicians from various training backgrounds each with special emphasis on the diagnoses and treatment of multiple organ dysfunction. The American Board of Medical Specialties (ABMS) currently lists critical care medicine as a subspecialty of anesthesiology, internal medicine, obstetrics & gynecology, pediatrics, and pulmonary disease. In addition, physicians in other specialties such as general surgery have also been known to practice critical care medicine.
2. In 2011, the ACGME reported that there were 33 critical care training programs under the internal medicine specialty in the United States with 186 on-duty residents. (Accreditation Council for Graduate Medical Education, 2010, p. 12)
3. Critical care workforce has continued to diminish because most of the physicians are specializing in pulmonary and critical care medicine instead of critical care. Research has indicated that this creates a problem because of the prevailing need for physicians focusing on critical care. (Krell, 2008, p. 1351)
4. Utah currently has 34 critical care specialists, which equates to approximately 1.2 providers-to-100,000 population. This is above the national ratio of 0.2 providers per 100,000 population. 19% of the workforce reported having a nearly full practice.
5. 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 which graduated six fellows and retained three of them in Utah practice in 2011. Utah also has a pediatrics critical care program that graduates two fellows each year and a critical care surgery fellowship that graduates two fellows each year.
6. It is one of the specialties that does not face a shortage now, but needs to be observed to ensure no future shortages occur.

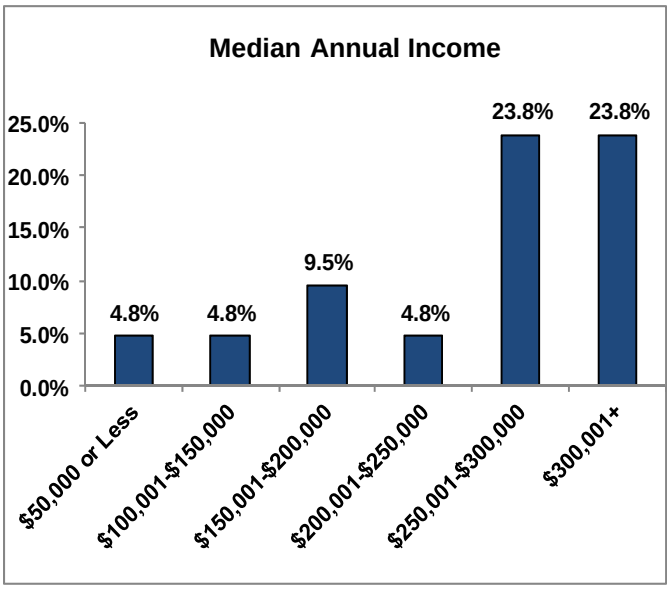


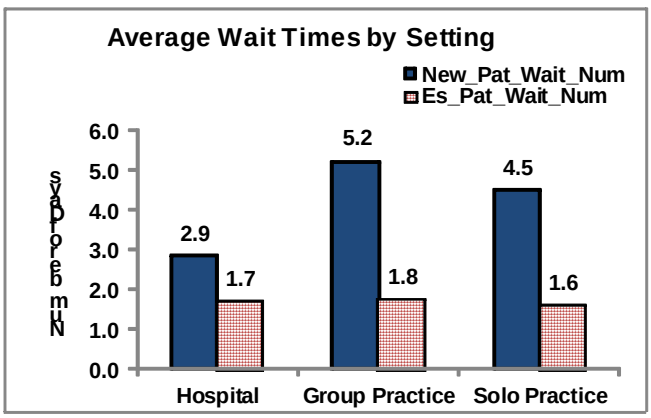
Patient Age Cohort	O/P	I/P
0-19	10.7%	17.5%
20-64	6.8%	17.5%
65-84	6.7%	31.6%
85+	7.8%	31.5%



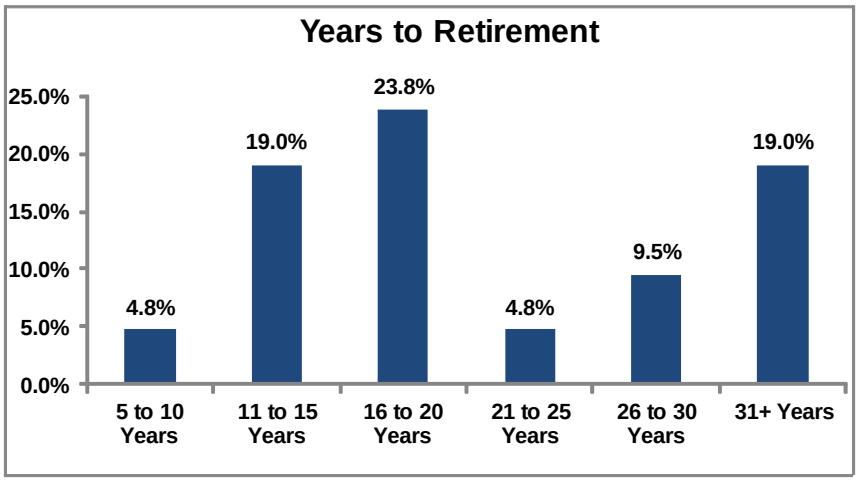
Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	23.8%	9.5%	23.8%	28.6%	14.3%
Insurance Rejecting Care	28.6%	14.3%	47.6%	9.5%	0.0%
Insurance Delaying and/or Denying	23.8%	23.8%	38.1%	9.5%	4.8%
Language/ Culture of patients	23.8%	4.8%	61.9%	9.5%	0.0%
Referrals	23.8%	0.0%	38.1%	33.3%	4.8%







Local Health District	Percentage Physicians
Salt Lake	61.9%
Utah	9.5%
Washington	4.8%
Weber	14.3%



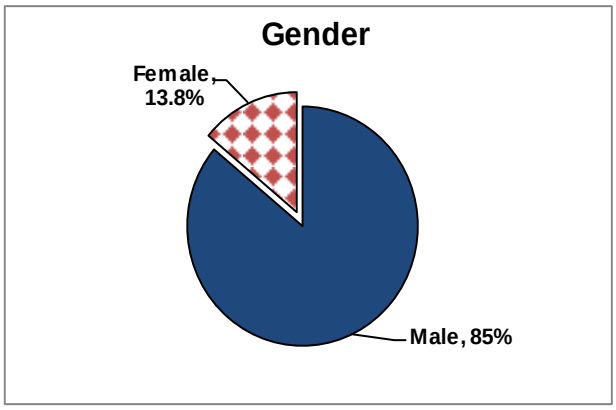
% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	0.0%	14.3%	19.0%	23.8%	9.5%	38.1%
Less than 25% Patients	42.9%	9.5%	42.9%	33.3%	33.3%	19.0%
25-50% of Patients	9.5%	19.0%	0.0%	4.8%	19.0%	0.0%
50-75% of Patients	9.5%	19.0%	0.0%	0.0%	0.0%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	4.8%
100% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

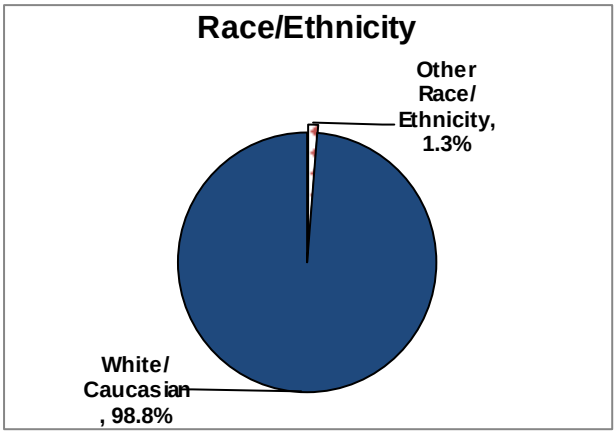
Works Cited

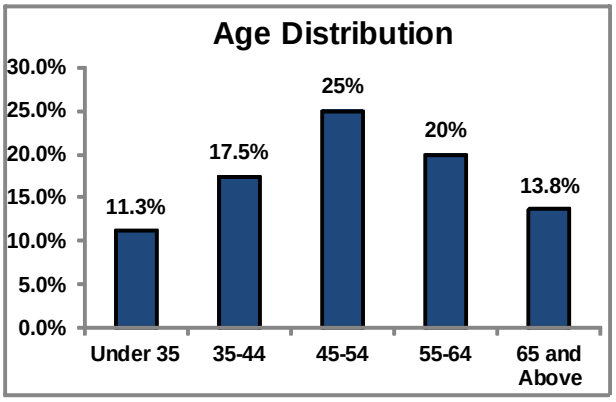
Accreditation Council for Graduate Medical Education. (2010). *Data Resource Book: Academic Year 2010-2011*. Retrieved 08 31, 2011, from www.acgme.org: http://www.acgme.org/acWebsite/dataBook/2010-2011_ACGME_Data_Resource_Book.pdf

Krell, K. (2008). Critical Care Workforce. *Critical Care Medicine, 36*(4), 1350-1353.

Specialties & Subspecialties. (n.d.). Retrieved 08 29, 2011, from www.abms.org: http://www.abms.org/who_we_help/physicians/specialties.aspx



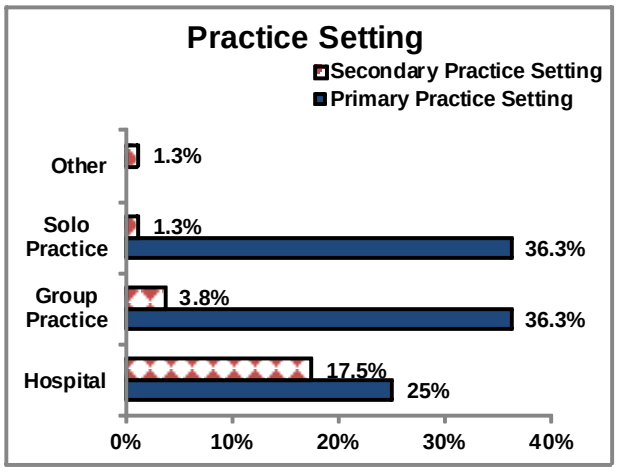


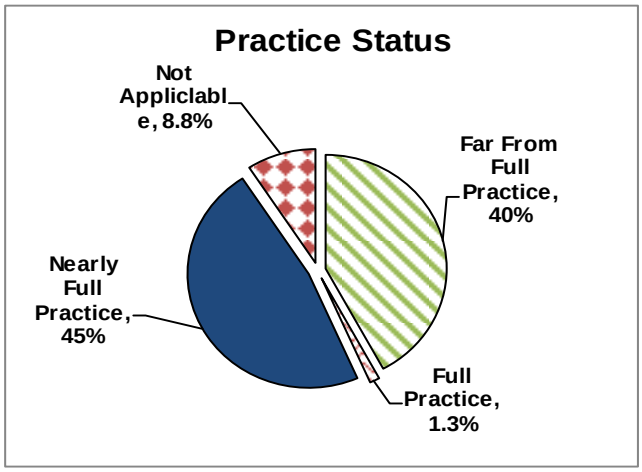


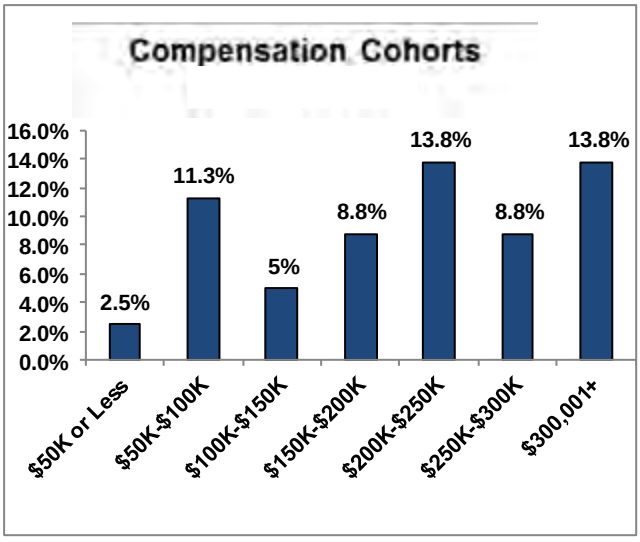
DERMATOLOGY:

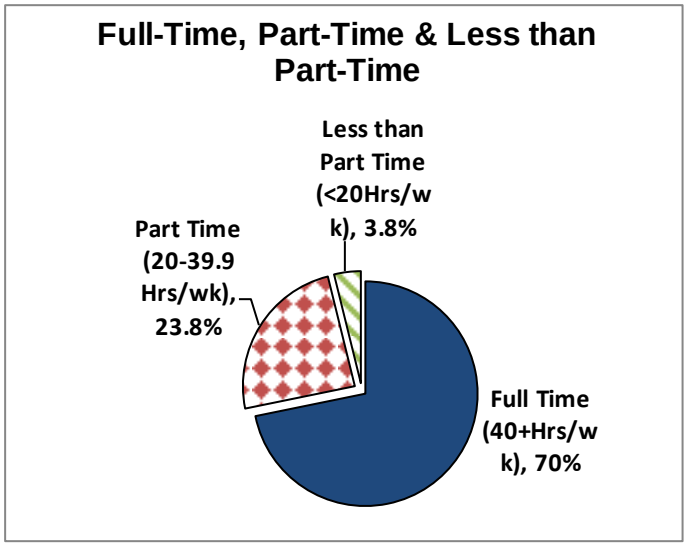
Count: 130 physicians
Standardized FTEs (40 or more hrs/wk=1FTE): 119
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 136
Average Hours per Week: 42
Median Ann. Income adj. for 40 hrs/wk: $228,571/yr
Median Ann. Income reported by DWS: $215,735/yr

1. According to the 2009 Dermatology Practice Profile, 38% of dermatologists believe that supply of dermatologists in their community is less than required. The same report stated the greatest shortage of dermatologists is in rural settings. (American Academy of Dermatology, 2009)
2. In 2010, UMEC survey data indicated there were 130 dermatologists practicing in Utah. This translates to a physician-to-100,000 population ratio of 4.6, or 21,568 Utahns per provider. In 2008, the U.S. had a dermatologist to 100,000 population ratio of 3.6. (American Medical Association, 2010, p. 21).
3. The average wait time to see a dermatologist in Utah is 26 days for a new patient and 15 days for an established patient, down from 36 and 26 days respectively in 2003. About 45% reported a nearly full practice, while 1.3% reported full practice (unable to accept any new patients).
4. Information from the National Residency Matching Program (NRMP) suggests that dermatology positions have decreased in the past years. The program placed 32 new residents in dermatology programs in 2007, while in 2010 they were able to place only 28 new residents. (National Resident Matching Program, 2011, p. 2)
5. The residency program in Utah graduates two dermatology residents each year. Between 1998 and 2008, 37% of the graduates were retained in Utah.

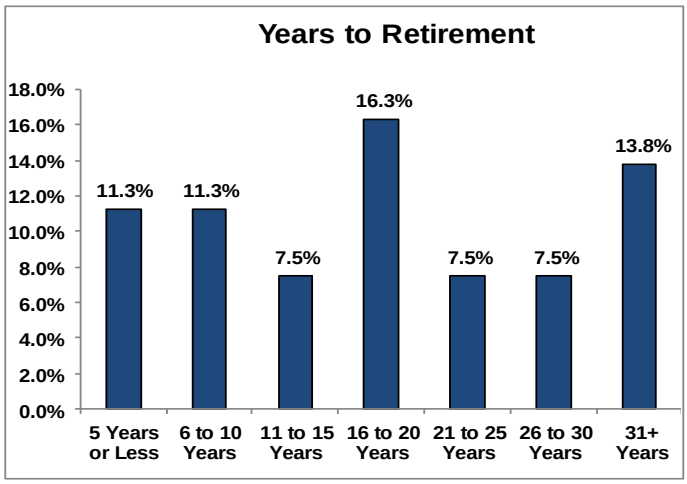






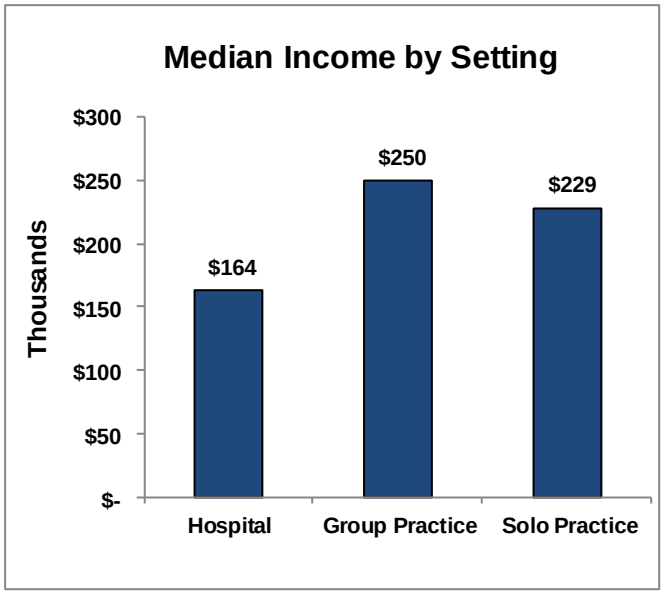


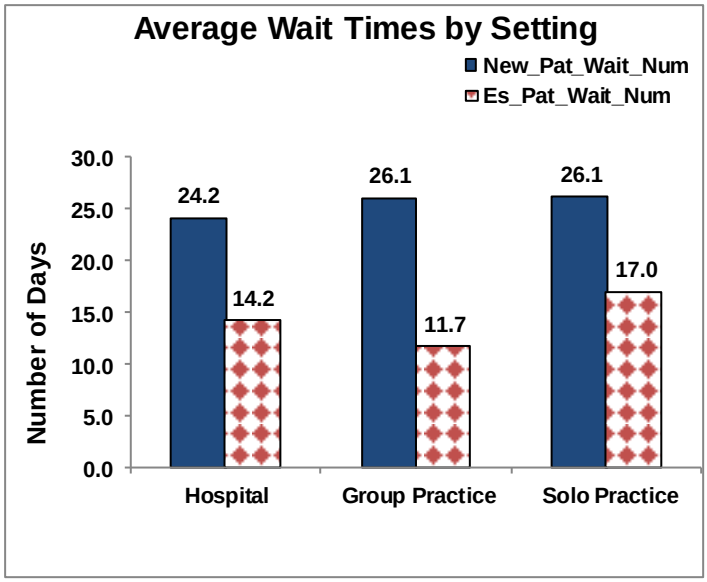
Patient Age Cohort	O/P	I/P
0-19	82.6%	75.0%
20-64	2.8%	1.3%
65-84	0.4%	1.0%
85+	3.8%	0.5%



Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	7.8%	24.6%	46.3%	13.9%	7.5%
Insurance Rejecting Care	7.1%	26.7%	50.2%	9.6%	6.4%
Insurance Delaying and/or Denying	8.5%	27%	50.9%	6.4%	7.1%
Language/Culture of patients	6.4%	6.4%	61.9%	22.4%	2.8%
Referrals	7.1%	8.9%	44.5%	34.5%	5.0%

% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	25.0%	3.8%	21.3%	5.0%	2.5%	36.3%
Less than 25% Patients	55.0%	13.8%	58.8%	71.3%	5.0%	45.0%
25-50% of Patients	1.3%	19.0%	1.3%	1.3%	50.0%	0.0%
50-75% of Patients	0.0%	6.3%	0.0%	0.0%	1.3%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	1.3%	1.3%	0.0%
100% of Patient	0.0%	0.0%	0.0%	1.3%	1.3%	0.0%



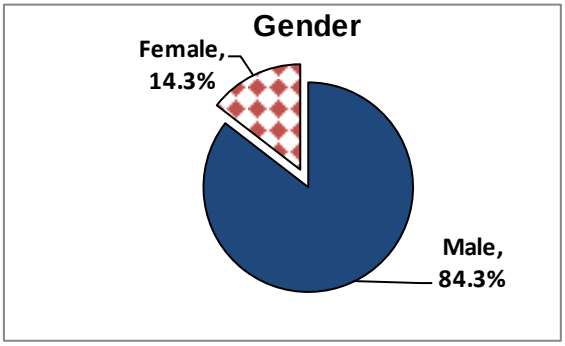


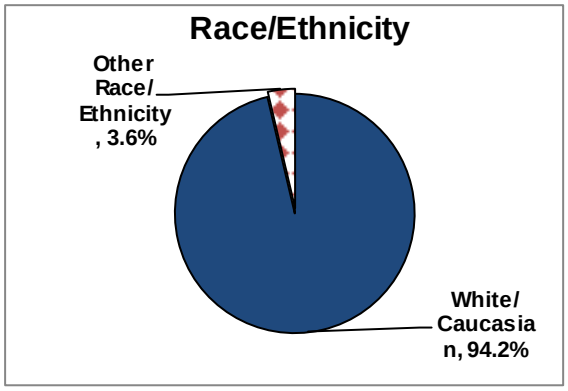
Works Cited

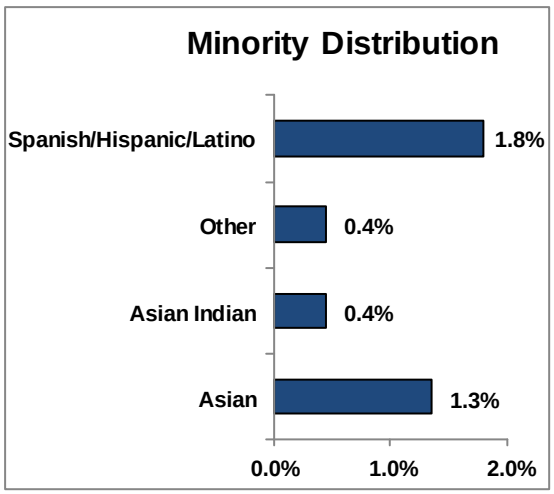
American Academy of Dermatology. (2009). *Dermatology Practice Profile Survey 2009 Report*. Retrieved 2011, from http:// www.aad.org/research/documents/2009PracticeProfileWeb.pdf

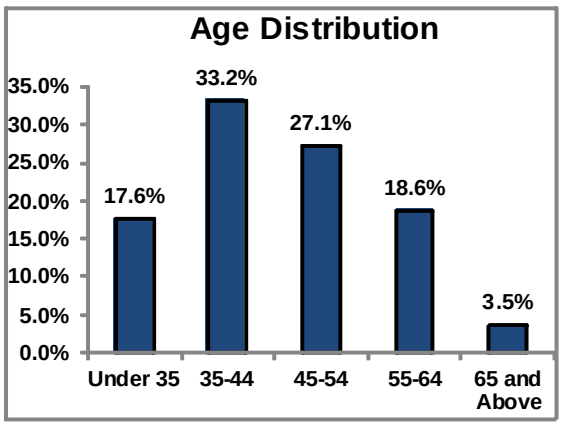
American Medical Association. (2010). *Physician Characteristics.*

National Resident Matching Program. (2011, 02). *Results & Data: Specialties Matching Services 2011 Appointment Year*. Retrieved 09 5, 2011, from http://www.nrmp.org/data/resultsanddatasms2011.pdf





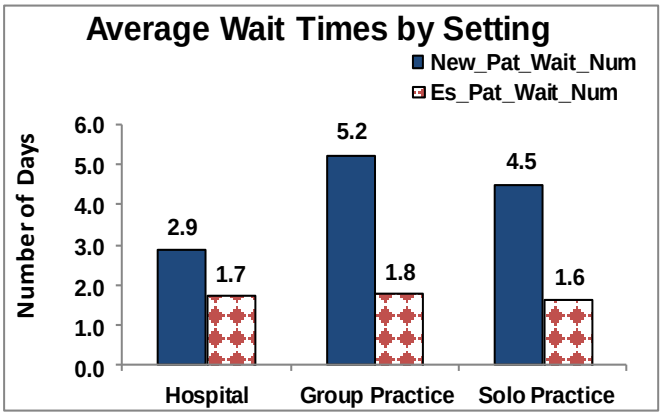


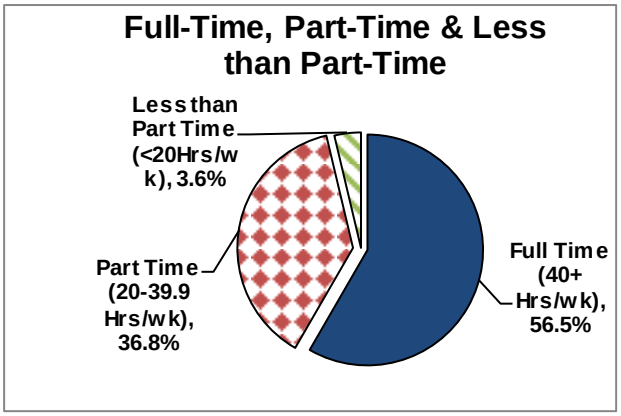


EMERGENCY CARE:

Count: 362 physicians
Standardized FTEs (40 or more hrs/wk=1FTE): 344
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 372
Average Hours per Week: 41
Median Ann. Income adj. for 40 hrs/wk: $200,000/yr
Median Ann. Income reported by DWS: $129,016 /yr

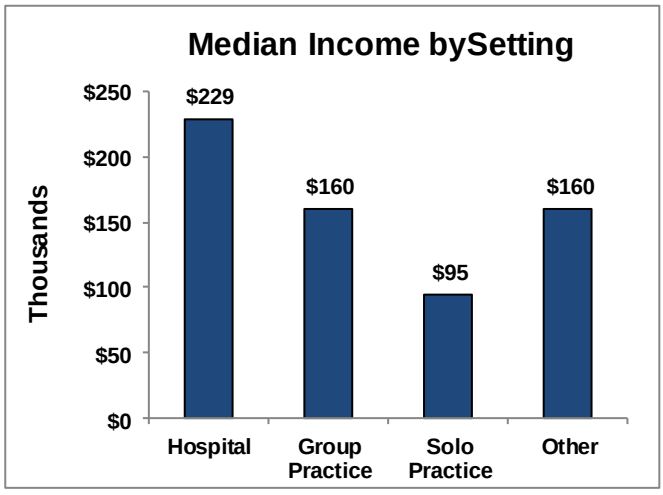
1. According to the UMEC survey data, Utah has 362 emergency care physicians practicing in the state. This puts the provider-to-100,000 population ratio in Utah at 12.9. According to the AMA, there were 31,722 physicians in the U.S. in 2008, putting the provider-to-100,000 population ratio at 10.4. Utah had 296 emergency care physicians in 2008. (American Medical Association, 2010, pp. 65,143)
2. The University of Utah, in conjunction with the Intermountain Healthcare and the VA Medical Center, officially opened an emergency residency training program with eight residents in each program level in July 2005. Utah retained about 64% of its trainees since 2008.
3. According to a report published by the University of Colorado Denver and the Emergency Medicine Network at Massachusetts General Hospital, 57% of all clinically active physicians were board certified in emergency medicine; this percentage climbed to 69% when all emergency medicine trained physicians were added. Furthermore, “nearly 98% of emergency physicians who graduated within the last five years were emergency medicine trained or emergency medicine board certified compared to only 44% who graduated 20 years ago or more.” (Lloyd, 2009)
4. 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.
5. Although the percentage of physicians board certified in emergency medicine may be lower than expected, current data show that many visits to the Emergency Department (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.

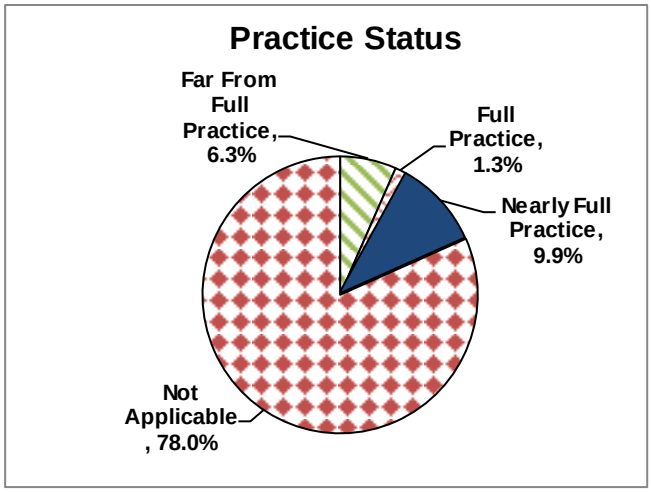


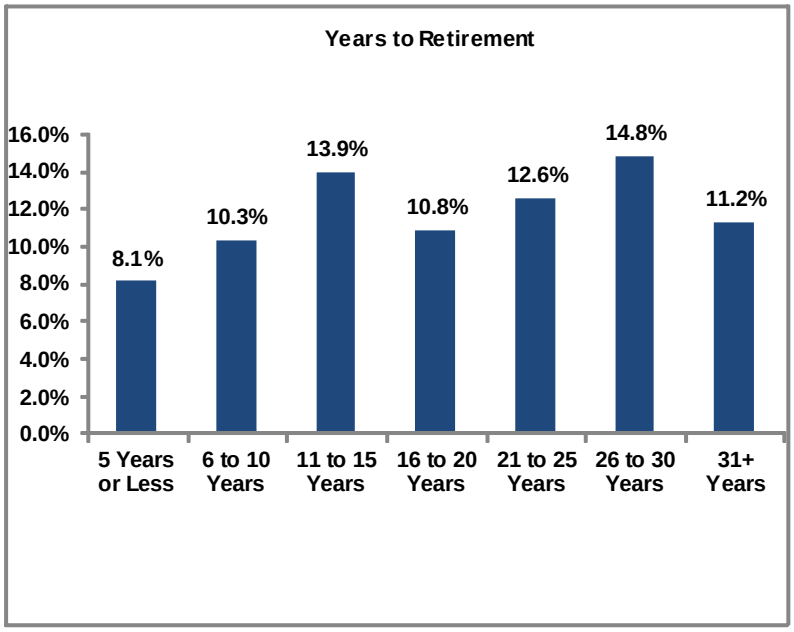


% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	4.9%	6.7%	32.7%	2.7%	3.6%	45.9%
Less than 25% Patients	39.5%	30.5%	20.6%	36.3%	12.6%	21.5%
25-50% of Patients	10.8%	17.9%	1.8%	14.8%	30.5%	0.9%
50-75% of Patients	0.0%	0.0%	0.0%	0.4%	5.8%	0.4%
75-99% of Patients	0.0%	0.0%	0.0%	0.4%	2.7%	0.0%
100% of Patients	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%

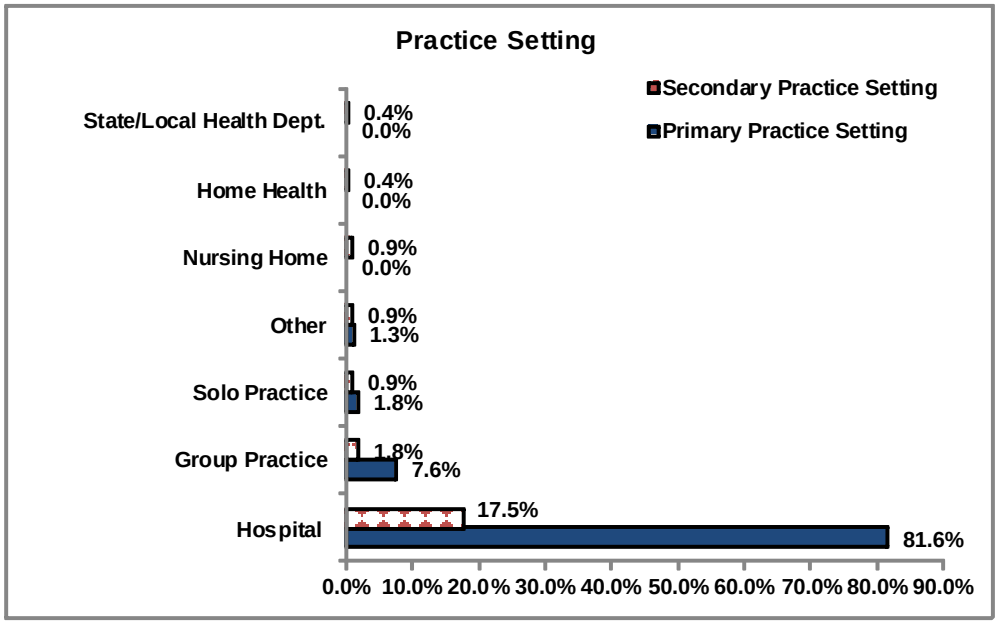
Patient Age Cohort	O/P	I/P
0-19	18.0%	2.8%
20-64	34.8%	2.7%
65-84	23.8%	3.3%
85+	17.1%	2.3%







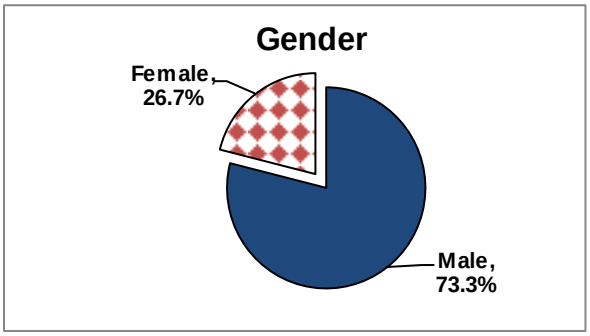
Local Health District	Percentage Physicians
Box Elder	0.9%
Cache	3.6%
Carbon	1.3%
Davis	3.6%
Duchesne	0.9%
Grand	0.9%
Iron	1.3%
Morgan	0.4%
Salt Lake	50.7%
San Juan	0.4%
Summit	1.3%
Tooele	1.3%
Uintah	0.9%
Utah	13.9%
Washington	1.8%
Weber	12.1%

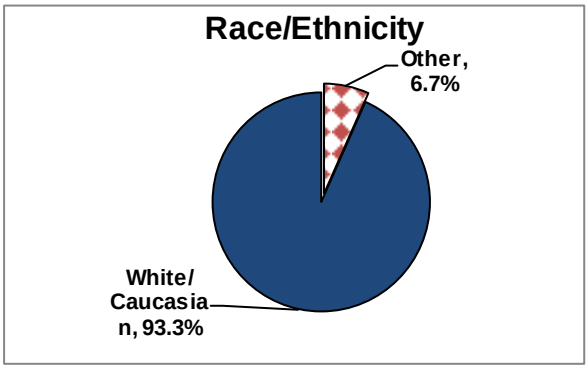


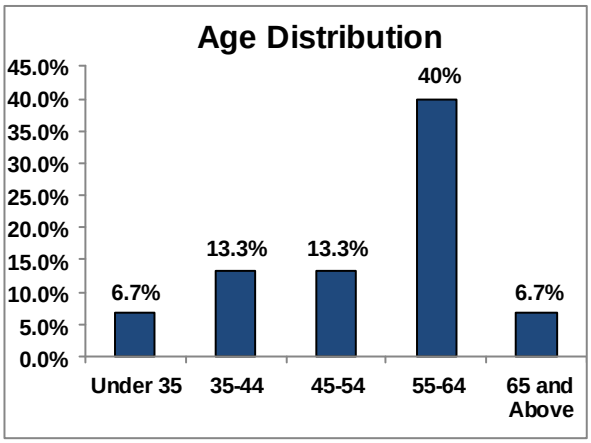
Works Cited

American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.

Lloyd, J. (2009, April 20). Medical Workforce Study: Increasing Numbers of Physicians Are Board Certified in Emergency Medicine, But National Shortage May Continue for Decades.



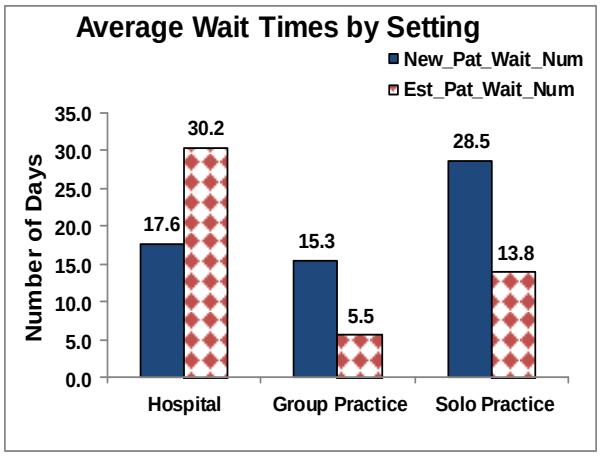


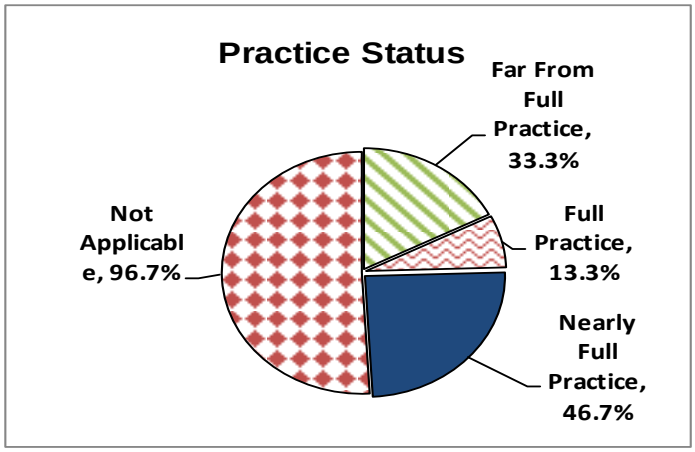


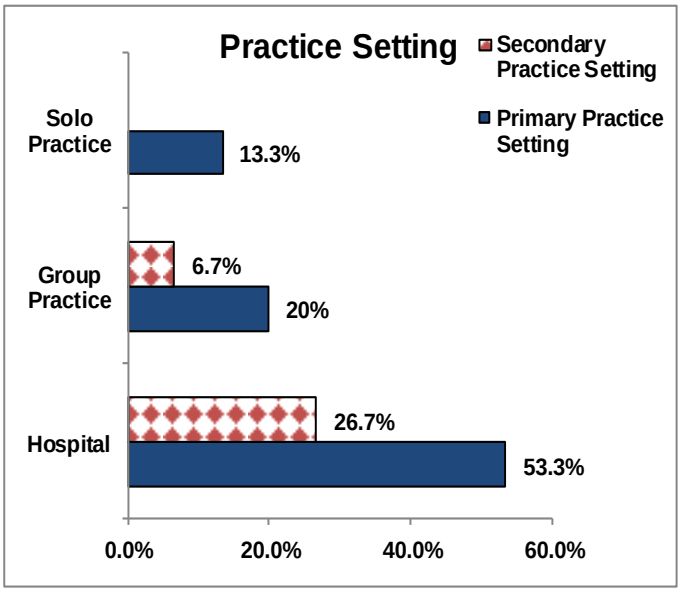
ENDOCRINOLOGY & METABOLISM:

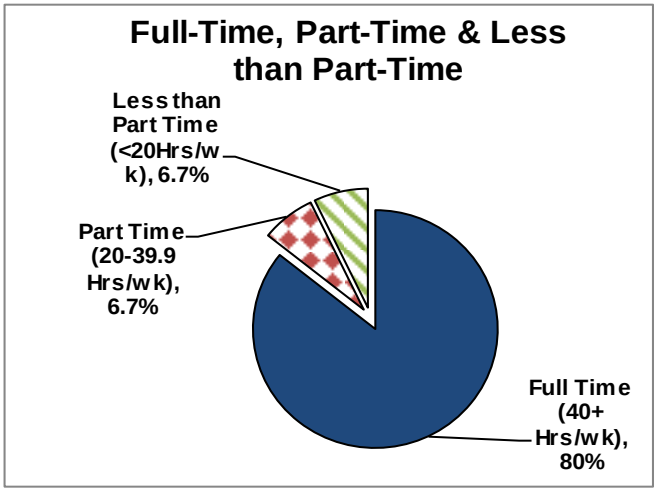
Count: 24 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 22
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 31
Average Hours per Week: 50
Median Ann. Income adj. for 40 hrs/wk: $80,000/yr
Median Ann. Income reported by DWS: $114,471/yr

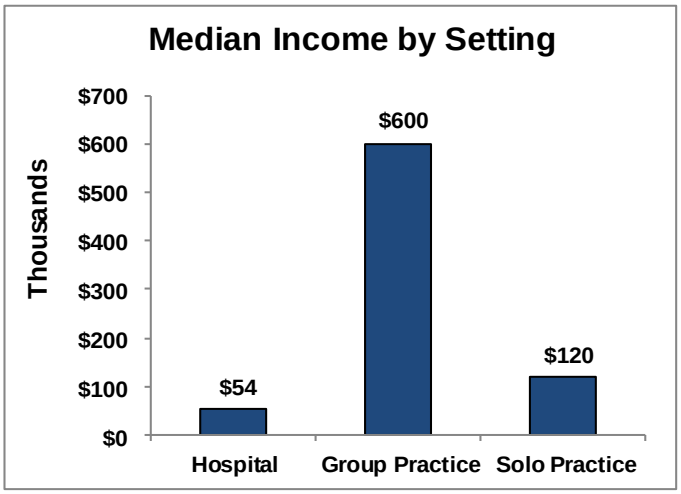
1. Utah has 24 endocrinology and metabolism practitioners. This translates to 0.9 physicians per 100,000 population or 115,028 people per provider (1.3 physicians per 100,000 adult Utahns).
2. Nationally, there were 5,306 physicians listed by the AMA in 2008, translating to a provider-to-100,000 population ratio of 1.7.
3. In 2003, it was projected that the demand for endocrinologists will continue to exceed their supply through 2020, and the gap will widen progressively from 2010 onward. A shortfall of 8-25% was projected, with the assumption that primary care physicians will act as gatekeepers for access to endocrinologists. (Rizza, et.al., 2003) With increasing levels of obesity, diabetes, aging, and the failure of the gatekeeper model, in 2011, this projection was revised to reflect a 40-50% shortfall by 2020. (Toledo & Stewart, 2011)
4. On the other hand, Utah patient wait times suggest an improvement in conditions since 2003: decreased from 40 days to 19 days for a new patient, and from 25 days to 21 days for an established patient. In addition, the UMEC demand model suggests that Utah has an adequate number of endocrinologists based on the target ratio of 0.8 providers per 100,000 population.





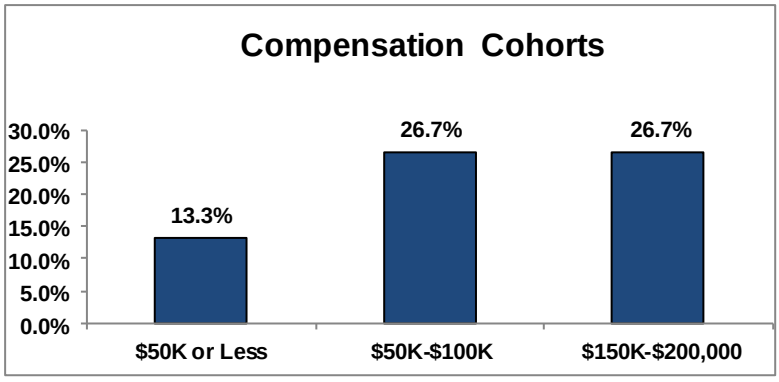




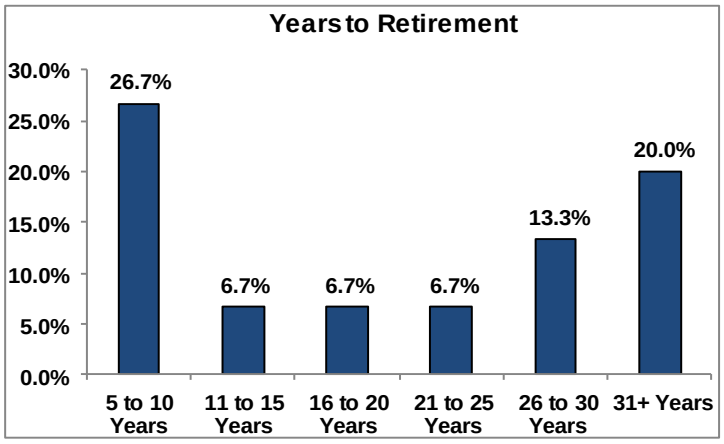


Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Appli-cable
Patient Pay	0.0%	6.7%	60%	26.7%	6.7%
Insurance Rejecting Care	6.7%	40%	40%	6.7%	6.7%
Insurance Delaying and/or Denying	0.0%	40%	46.7%	6.7%	6.7%
Language/ Culture of patients	0.0%	6.7%	53.3%	26.7%	13.3%
Referrals	0.0%	0.0%	47.7%	46.7%	6.7%

Patient Age Cohort	O/P	I/P
0-19	2.5%	7.9%
20-64	48.5%	30.7%
65-84	22.6%	15.5%
85+	16.7%	3.0%



Local Health District	Percentage Physicians
Davis	7%
Salt Lake	80%
Weber-Morgan	7%
Out of State	7%



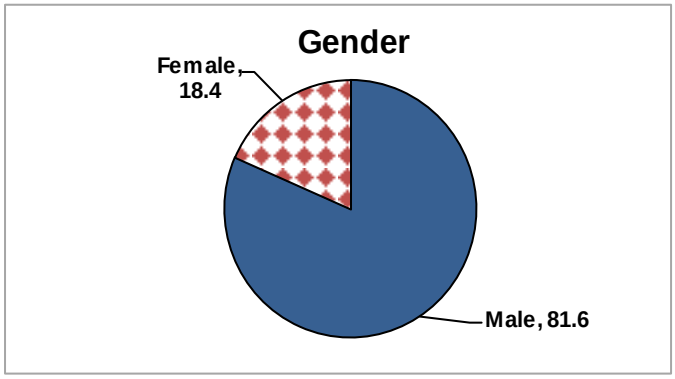
% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	6.7%	0.0%	33.3%	20%	6.7%	40%
Less than 25% Patients	53.3%	33.3%	33.3%	46.7%	0.0%	26.7%
25-50% of Patients	6.7%	26.7%	0.0%	0.0%	20%	0.0%
50-75% of Patients	0.0%	6.7%	0.0%	0.0%	26.7%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	0.0%	13.3%	0.0%
100% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

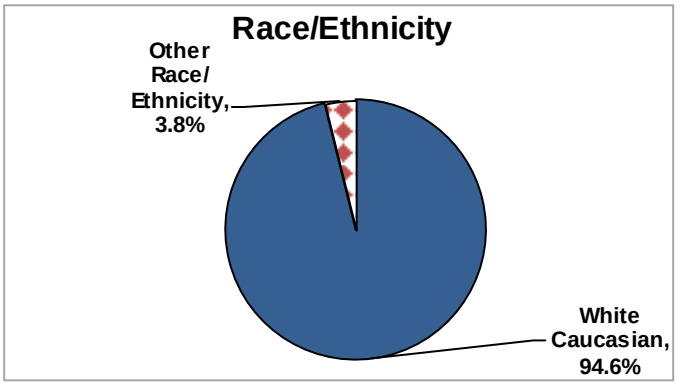
Works Cited

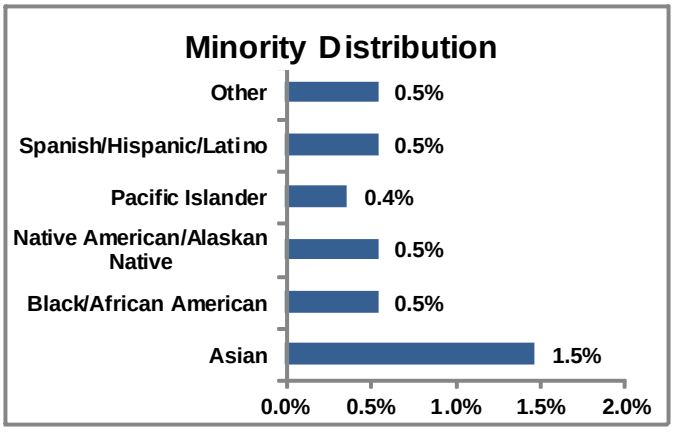
American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.

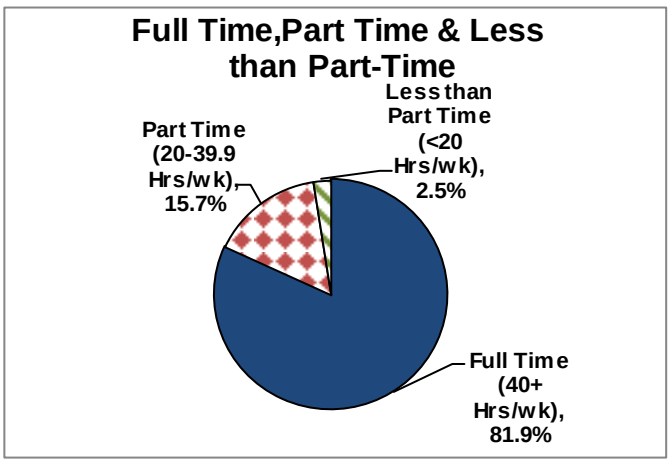
Rizza, A., Vigersky, R., Rodbard, H., Ladenson, P., Young, W., Surks, M., et al. (2003). A Model to Determine Workforce Needs for Endocrinologists in the United States Until 2020. *The Journal of Clinical Endocrinology & Metabolism, 88*(5), 1979-87.

Toledo, F., & Stewart, A. (2011, April). The Academic and Clinical Endocrinology Physician Workforce in the U.S. *The Journal of Clinical Endocrinology & Metabolism, 96*(4), 942-944.





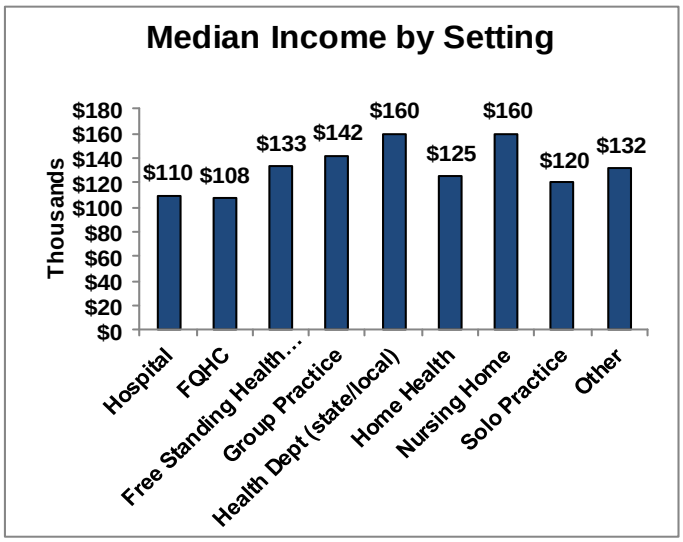


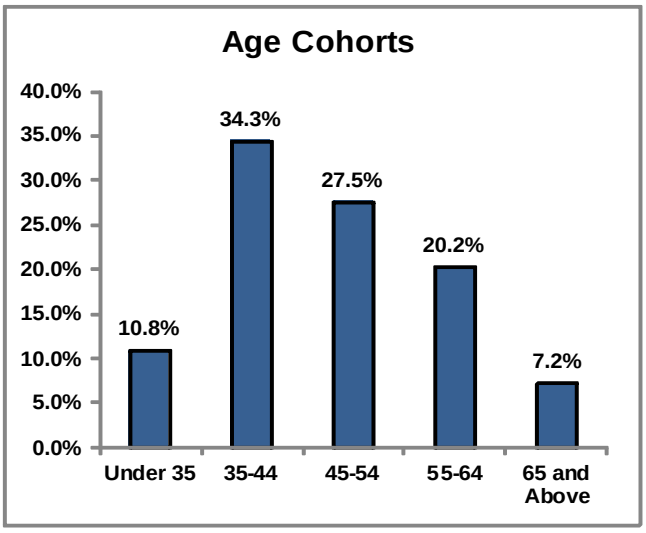


FAMILY MEDICINE PRACTITIONERS:

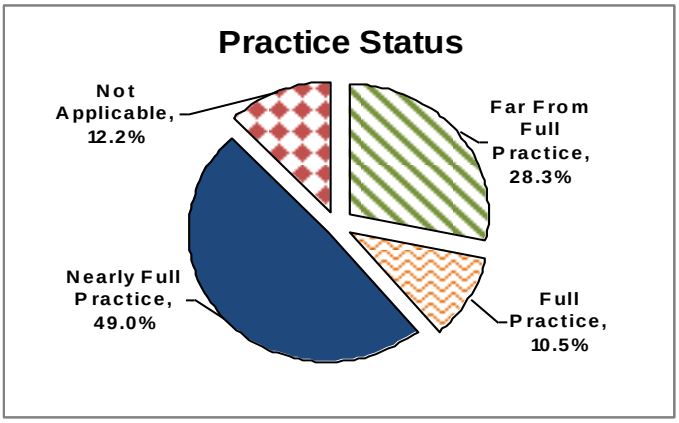
Count: 899 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 855
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 1,128
Average Hours per Week: 50
Median Ann. Income adj. for 40 hrs/wk: $133,333/yr
Median Ann. Income reported by DWS: $81,257/yr

1. The number of family medicine programs has steadily decreased from 464 in 2006 to 451 in 2011 (Accreditation Council for Graduate Medical Education, 2010). According to data from the National Resident Matching Program (NRMP) residency programs were able to fill 94.4% of their offered positions, of which, only 48% are U.S. medical school graduates. (National Resident Matching Program, 2011)
2. There was an increase of 20.2% in the family medicine physician workforce from 1996 through 2006, suggesting a 2% annual growth rate. (Association of American Medical Colleges, 2008) This trend is reflected in Utah, where family practice physicians grew by 37.5% (from 654 physicians in 2003 to 899 physicians in 2010), suggesting an annual growth rate of 5.4%.
3. The average age of family medicine physicians in Utah is 47.6 (Std. Dev. 11.2; Median: 46). 27.4% of the physicians are 55 years and older.
4. The average wait time for a new patient to see a family physician in Utah is 7 days. For an established patient, it is 3 days. However, a closer look at the data by primary practice setting shows quite a bit of variation in wait times, both for new and established patients.
5. Utah has seen its Physician Assistant (PA) workforce grow by 85.7% since 2003. The 2010 UMEC survey data show that 39% of Utah PAs work in family medicine. (Utah Medical Education Council, 2010)
6. 69% of our family medicine physicians have some ties to Utah.
7. 59% of our family medicine physcians have reported a full or nearly full practice status, suggesting that they have little or no room for new patients.
8. It is also likely that the Utah family medicine physician workforce is shouldering the increase in workload caused due to the severe shortage of internal medicine physician workforce in Utah.





The median annual income for family practice physicians is $160,000. When adjusted for hours worked, the median annual income is $133,333 per year per FTE (40 hours per week, 52 weeks per hour).

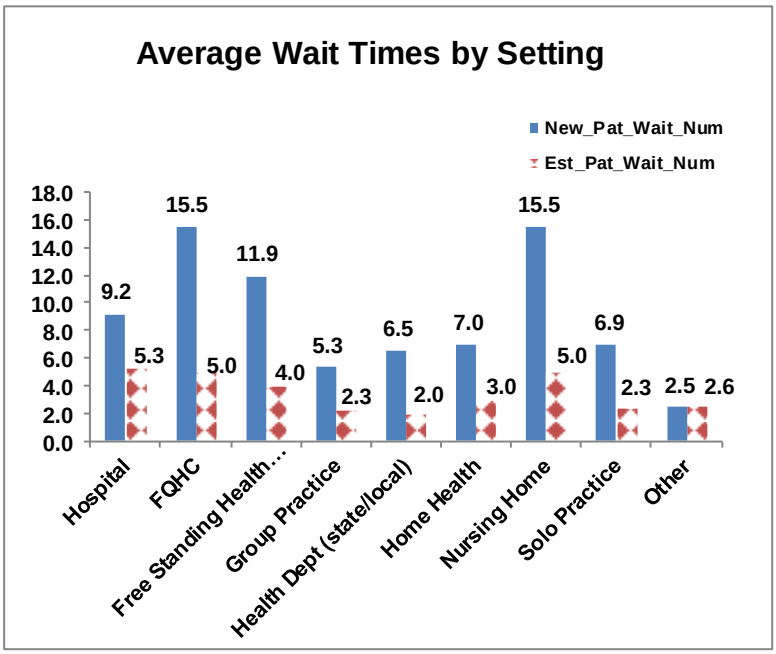


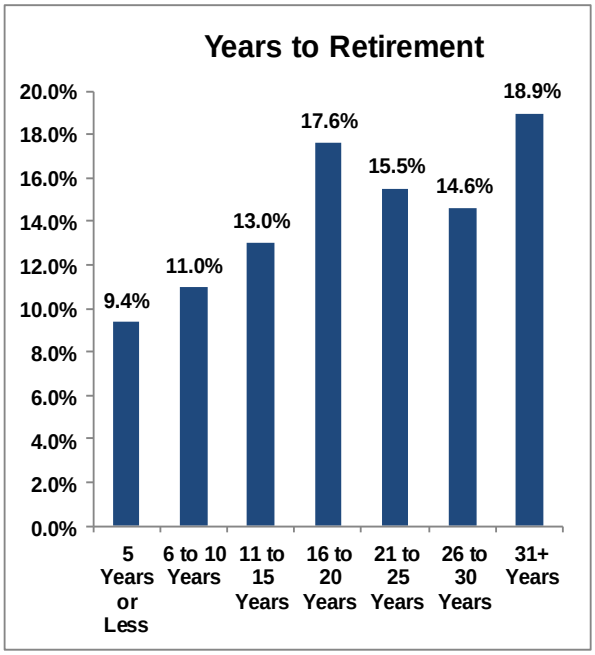
29% of physicians limit Medicaid patients they accept, 28% limit Medicare patients they accept, 8% limit uninsured patients they accept, 8% limit insured patients that they can accept and 52% said they do not limit any of these patients.

Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	5.8%	37.9%	41.2%	9.9%	5.2%
Insurance Rejecting Care	5.6%	39.9%	42.1%	7.2%	5.2%
Insurance Delaying and/or Denying	6.5%	36.6%	43.7%	7.6%	5.6%
Lan-guage/ Culture of patients	5.6%	8.8%	52.9%	28.7%	4.0%
Referrals	6.3%	12.3%	49.3%	29.6%	2.5%

No. of Utah Factors	Utah Upbringing	Utah Medical School	Utah Resi-dency	Number of Physicians	Percent in Utah Practice
0	No	No	No	190	21.0%
1	Yes	No	No	120	13.0%
	No	Yes	No	26	3.0%
	No	No	Yes	141	16.0%
2	Yes	Yes	No	102	11.0%
	Yes	No	Yes	84	9.0%
	No	Yes	Yes	39	4.0%
3	Yes	Yes	Yes	117	13.0%
Unknown				80	9.0%
Total				899	100%

Local Health District	% Family Practitioners
Bear River	4.5%
Central	5.6%
Davis	13.6%
Salt Lake	33.9%
Southeastern	2.7%
Southwest	7.1%
Summit	2.0%
Tooele	0.9%
Tri-County	1.4%
Utah	16.1%
Wasatch	1.4%
Weber-Morgan	9.1%





% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	9.2%	9.2%	38.1%	9.0%	8.3%	38.6%
Less than 25% Patients	54.7%	49.6%	42.4%	65.3%	10.5%	41.9%
25-50% of Patients	16.8%	21.5%	0.5%	4.5%	31.0%	0.4%
50-75% of Patients	1.3%	1.3%	0.2%	2.2%	25.1%	0.0%
75-99% of Patients	0.2%	0.7%	0.0%	0.9%	6.5%	0.0%
100% of Patients	0.2%	0.0%	1.1%	0.4%	0.7%	1.4%
Missing	17.7%	17.7%	17.7%	17.7%	17.9%	17.7%

Patient Age Cohort	O/P	I/P
0-19	19.3%	12.8%
20-64	43.3%	12.6%
65-84	22.1%	13.5%
85+	11.6%	3.7%

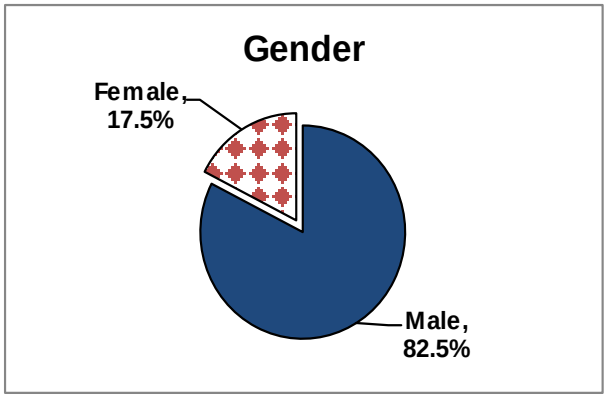
Works Cited

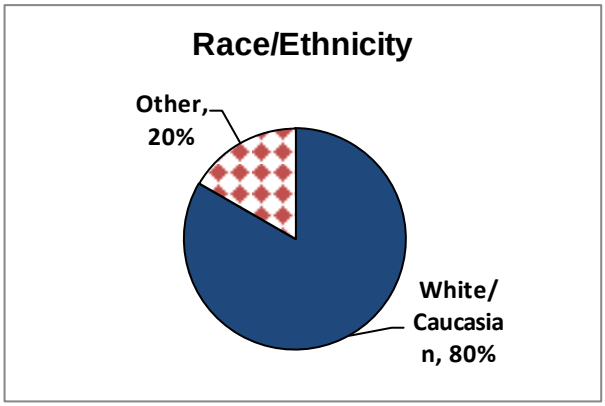
Accreditation Council for Graduate Medical Education. (2010). Data Resource Book Academic Year 2010-2011, p.12. Chicago.

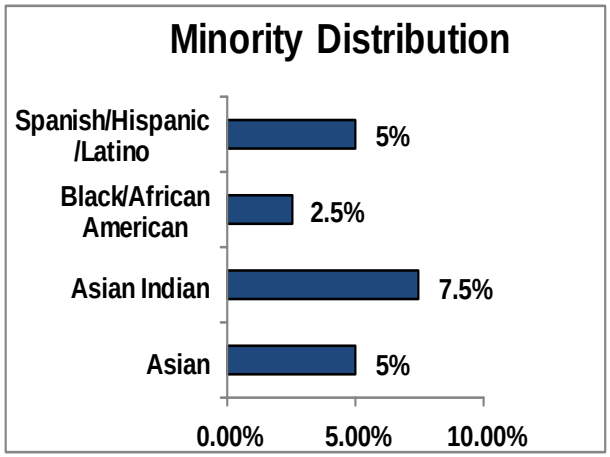
Association of American Medical Colleges. (2008, November). 2008 Physician Specialty Data, Table 9. Retrieved August 15, 2011, from AAMC Specialty Data: https://www.aamc.org/download/47352/data/specialtydata.pdf

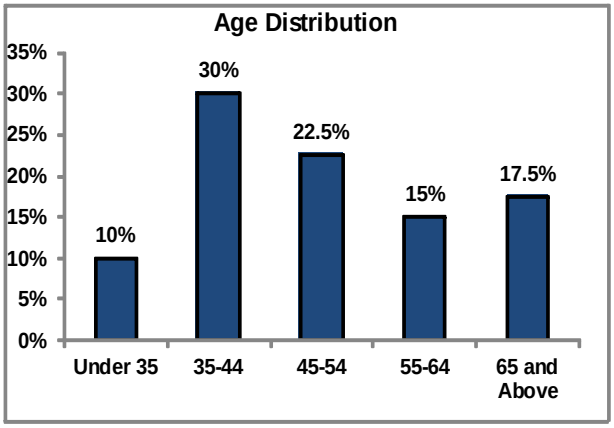
National Resident Matching Program. (2011). Advance Data Tables 2011 Main Residency Match.

Utah Medical Education Council. (2010). Utah's Physician Assistant Workforce. Salt Lake City .





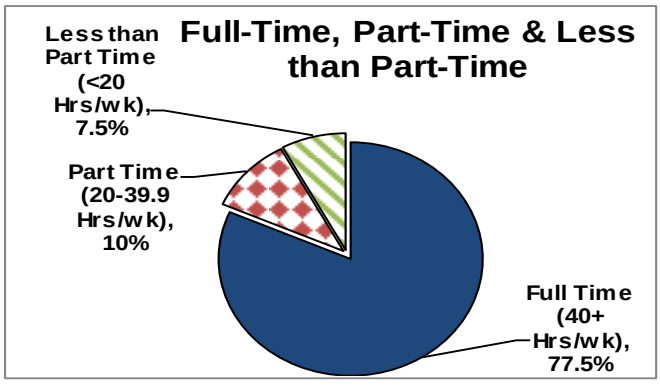


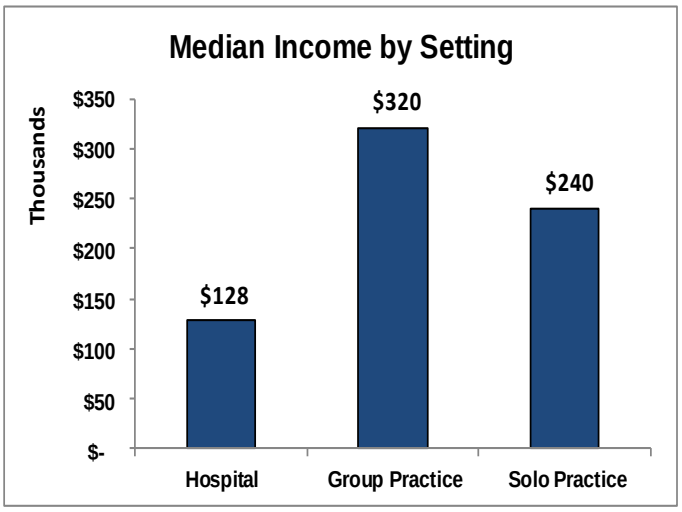


GASTROENTEROLOGISTS:

Count: 65 physicians
Standardized FTEs (40 or more hrs/wk = 1 FTE): 60
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 81
Average Hours per Week: 40
Median Ann. Income adj. for 40 hrs/wk: $266,667/yr
Median Ann. Income reported by DWS: $100,033/yr

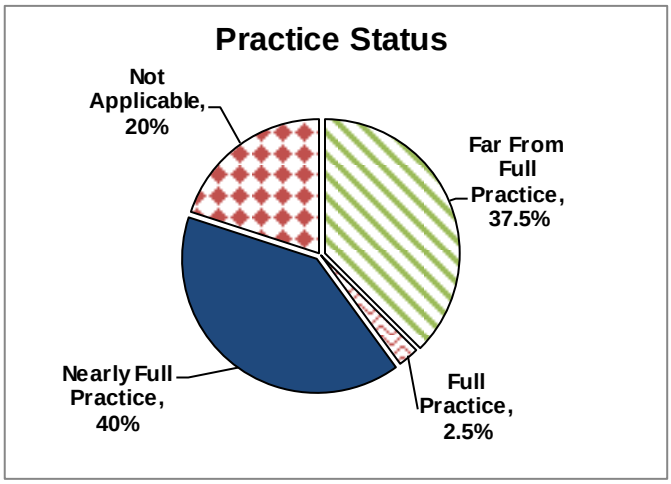
1. Gastroenterology (GI) is recognized as one of the specialties facing immediate shortages in the state.
2. According to the AMA, there are 12,722 gastroenterologists in the nation in 2008. (American Medical Association, 2010, p. 22) This translates to a provider-to- population ratio of 4.2. UMEC survey data indicates that there are 65 gastroenterologists in Utah, placing Utah ratio at 2.3 physicians-to- 100,000 Utahns.
3. In 2004, it was estimated that 64 gastroenterologists practiced in Utah, suggesting that this workforce has seen no net growth since then.
4. During the period 1996-2006, following the Gastroenterology Leadership Council's (GLC) recommendation to reduce the number of GI training positions by 25-50%, the growth rate of the GI workforce slowed considerably. (Meyer, 1996) Since the decision to cancel the national fellowship match, there has been a steady increase of unfilled positions. (Accreditation Council for Graduate Medical Education, 2010, p. 12) While the workforce grew at a 6.1% annual rate between 1985 and 1995, it grew at a 2.6% annual rate between 1995 and 2005. (American Medical Association, 2010, p. 439) (American Medical Association, 2007, p. 312) In 2006, this decision was reversed and gastroenterology groups rejoined the National Specialty Matching Service. (National Residency Match Program Specialty Matching Service) The workforce only grew by 2% annually between 2005 and 2008, in line with the workforce shortage projections being made for the national physician workforce pool.
5. As of 2010, there are 155 gastroenterology programs in the nation. (Accreditation Council for Graduate Medical Education, 2010) Utah currently has one gastroenterology fellowship-training program that trains two physicians per year for three years, and has retained about 44% of its graduates in Utah workforce since 1998.

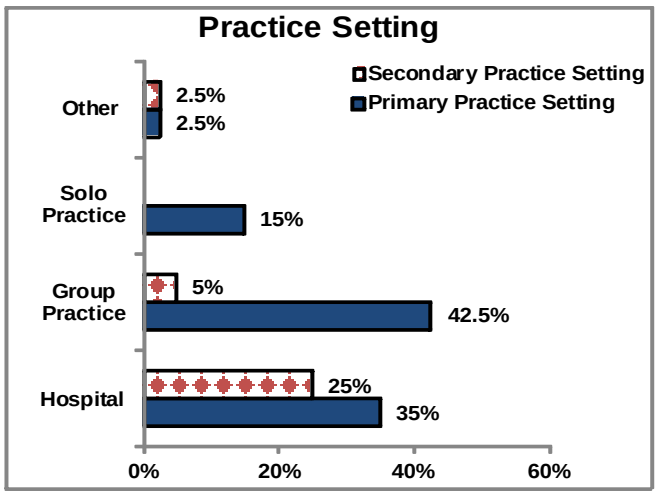


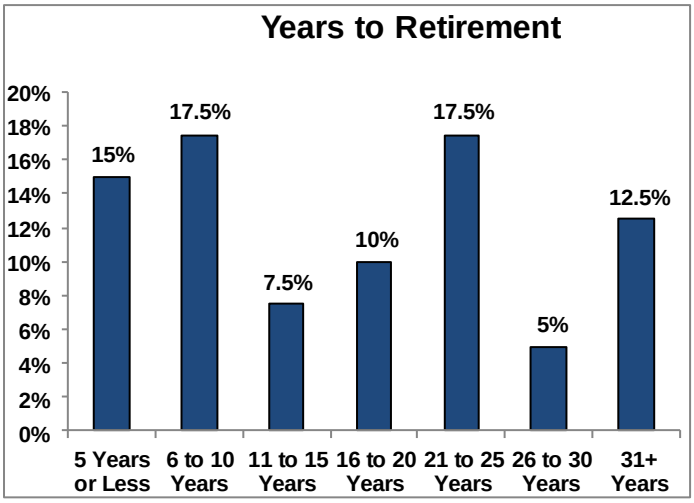


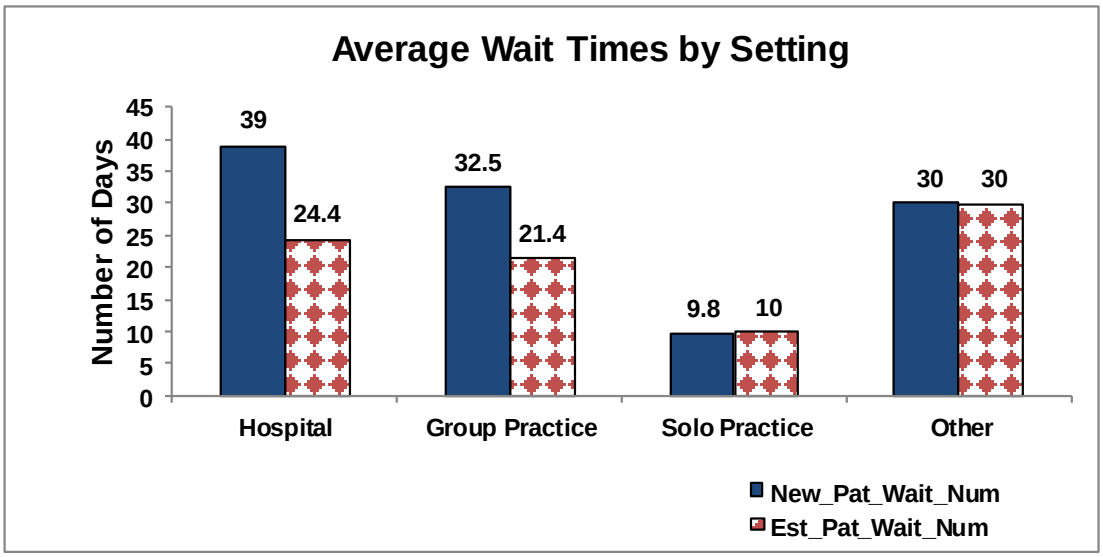
Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Appli-cable
Patient Pay	5.0%	35.0%	37.5%	7.5%	15.0%
Insurance Rejecting Care	5.0%	40.0%	40.0%	10.0%	5.0%
Insurance Delaying and/or Denying	7.5%	47.5%	32.5%	7.5%	5.0%
Language/Culture of patients	5.0%	2.5%	57.5%	30.0%	5.0%
Referrals	5.0%	7.5%	37.5%	40.0%	10.0%

Patient Age Cohort	O/P	I/P
0-19	3.1%	6.7%
20-64	48.9%	25.2%
65-84	35%	30.5%
85+	8.1%	5.5%









% Patients	Medicaid	Medicare	Charity	Un-insured	Insured	VA
Do Not Accept	5.0%	5.0	22.5%	7.5%	7.5%	47.5%
<25% of patients	67.5%	17.5%	52.5%	70.0%	10.0%	27.5%
25-50% of patients	5.0%	45.0%	0.0%	0.0%	40.0%	0.0%
50-75% of patients	0.0	2.5%	2.5%	0.0%	2.5%	0.0%
75-99% of patients	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%
100% of patients	22.5%	22.5%	22.5%	22.5%	22.5%	22.5%

Local Health District	Percentage Physicians
Bear River	10%
Davis	10%
Salt Lake	35%
Southwest	2.5%
Tri-County	2.5%
Utah	12.5%
Weber-Morgan	5%
Out of State	20%

Works Cited

Accreditation Council for Graduate Medical Education. (2010). *Data Resource Book: Academic Year 2010-2011.* Retrieved 08 31, 2011, from www.acgme.org: http://www.acgme.org/acWebsite/dataBook/2010-2011_ACGME_Data_Resource_Book.pdf

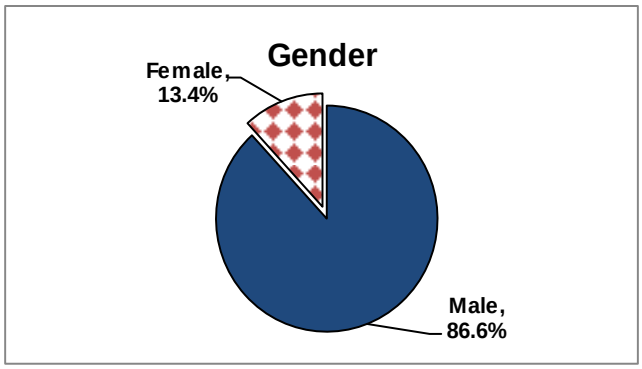
American Gastroenterological Association. (2011). *GI Match FAQ*. Retrieved September 9, 2011, from American Gastroenterological Association: http://www.gastro.org/gi-fellowship/gastroenterology-fellowship-match/gi-match-faq

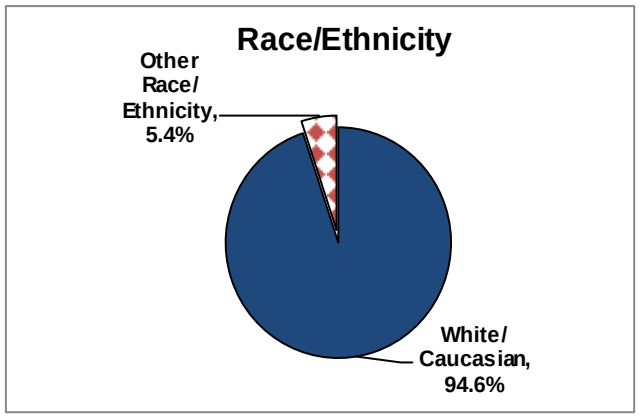
American Medical Association. (2010). *Physician Characteristics and Distribution in the U.S.*

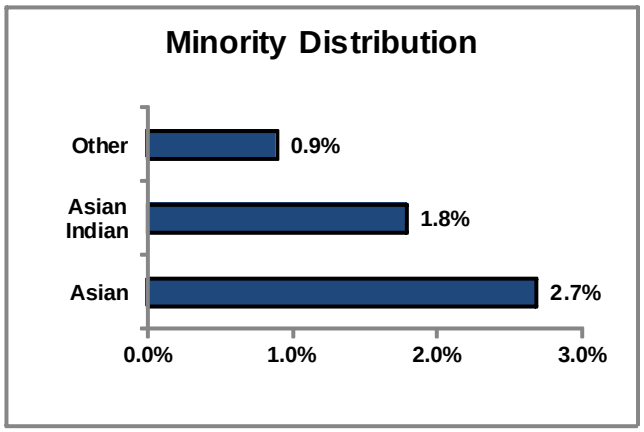
Association of American Medical Colleges. (n.d.). *2008 Physician Specialty Data.*

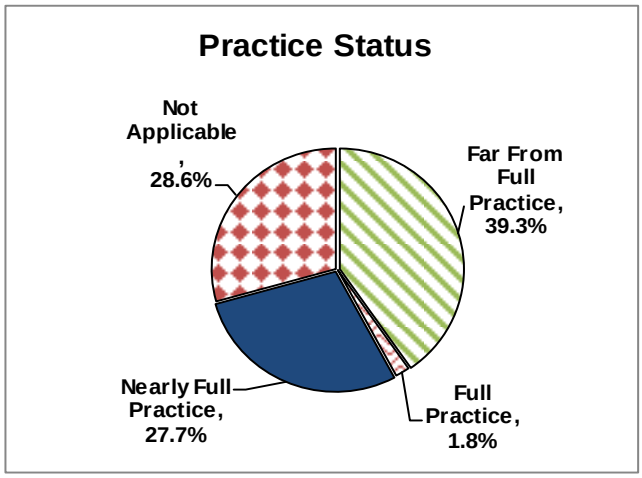
Meyer, e. a. (1996). Gastroenterology Workforce Modeling. *Journal of the American Medical Association, 276*(9), 689-694.

National Residency Match Program Specialty Matching Service. (n.d.). Retrieved November 2011, from http://www.nrmp.org/fellow/index.html









GENERAL SURGERY:

Count: 182 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 177
Total Hr. FTEs (60 hrs/wk= 1.5 FTE): 280
Average Hours per Week: 62
Median Ann. Income adj. for 40 hrs/wk: $184.258/yr
Median Ann. Income reported by DWS: $193,416/yr

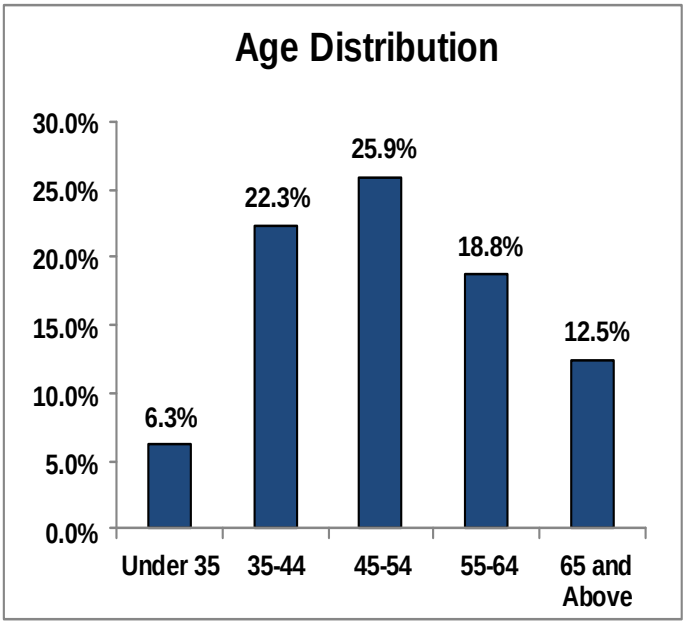
1. According to the AMA, there are 30,685 general surgeons in the nation in 2008. This translates to a provider -to-100,000 population ratio of 10.1, or 9,926 people per provider. (American Medical Association, 2010, p. 22)

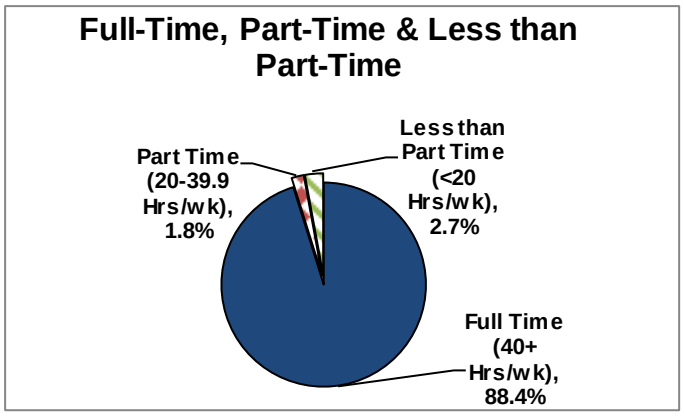
2. Utah has 182 general surgeons in 2010, resulting in a provider-to-100,000 population ratio of 6.5, or 15,406 people per provider.

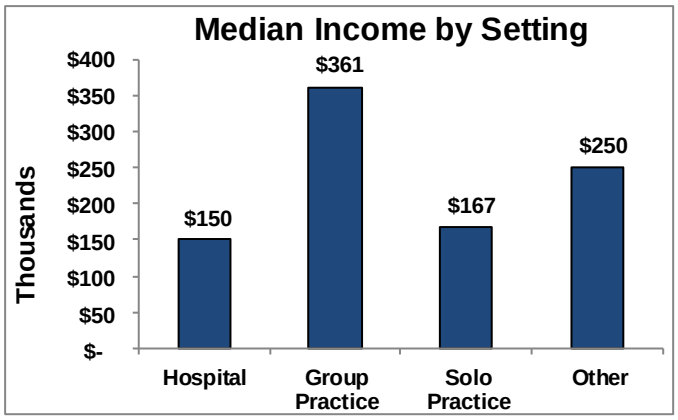
3. According to a study published in 2008 by Ohio State University Medical Center, there will be a potential shortage of 1,300 general surgeons growing to 1,875 in 2020 and 6,000 in 2050 (Williams & Ellison, 2008, p. 548) .

4. UMEC physician demand study (see p.37) recognizes general surgery as one of the specialties in severe need in Utah.

5. The University of Utah general surgery residency program currently graduates five general surgery residents per year. About 34% of general surgery graduates have been retained in Utah over the period 1998-2010.

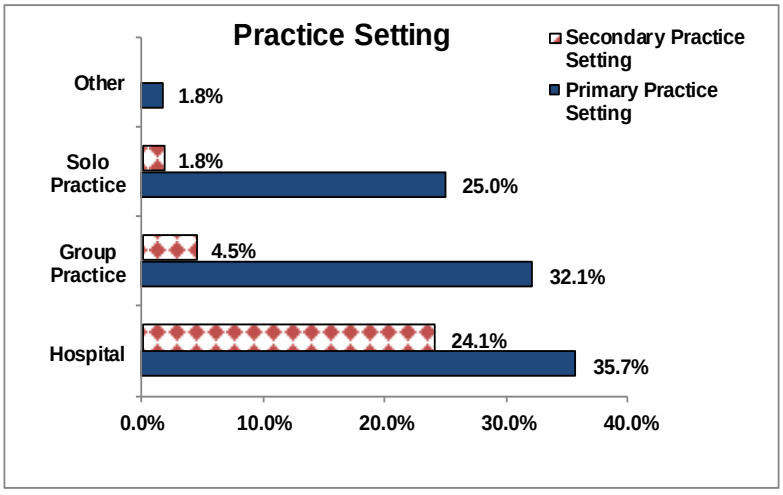






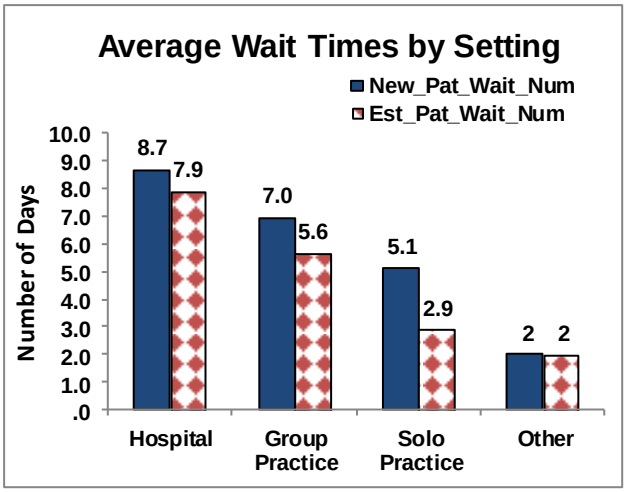
Patient Age Cohort	O/P	I/P
0-19	8.6%	8.6%
20-64	45.4%	45.4%
65-84	30.3%	30.3%
85+	10.3%	10.3%

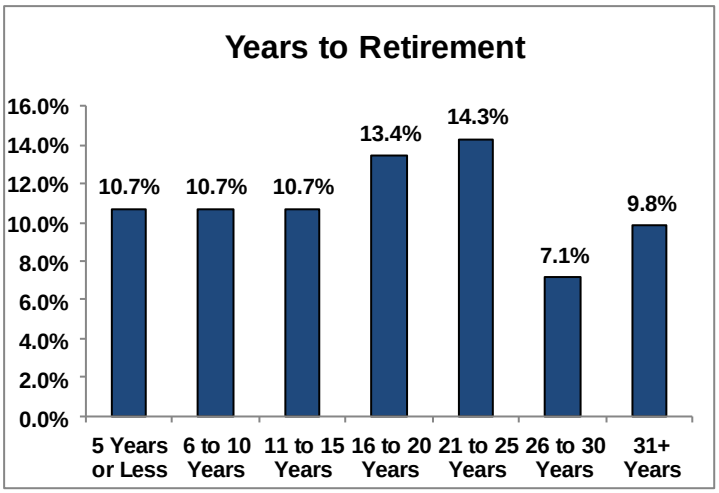
Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	14.3%	26.8%	33.9%	15.2%	9.8%
Insurance Rejecting Care	13.4%	33%	38.4%	8.9%	6.3%
Insurance Delaying and/or Denying	13.4%	35.7%	36.6%	8.0%	6.3%
Language/Culture of patients	15.2%	4.5%	51.8%	22.3%	6.3%
Referrals	16.1%	1.8%	33%	42%	7.1%



Local Health District	Percentage Physicians
Bear River	3.6%
Central	2.7%
Davis	3.6%
Salt Lake	39.3%
Southeastern	1.8%
Southwest	8.0%
Summit	1.8%
Tri-County	2.7%
Utah	11.6%
Weber-Morgan	7.1%
Out of State	15.2%

% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	3.6%	2.7%	21.4%	8.0%	3.6%	27.7%
Less than 25% Patients	54.5%	32.1%	41.1%	52.7%	6.3%	34.8%
25-50% of Patients	4.5%	26.8%	0.0%	2.7%	37.5%	0.0%
50-75% of Patients	0.9%	1.8%	0.0%	0.0%	14.3%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	0.0%	1.8%	0.0%
100% of Patients	0.0%	0.0%	0.9%	0.0%	0.0%	0.9%

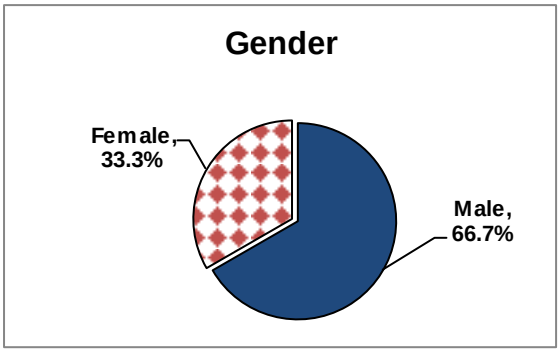


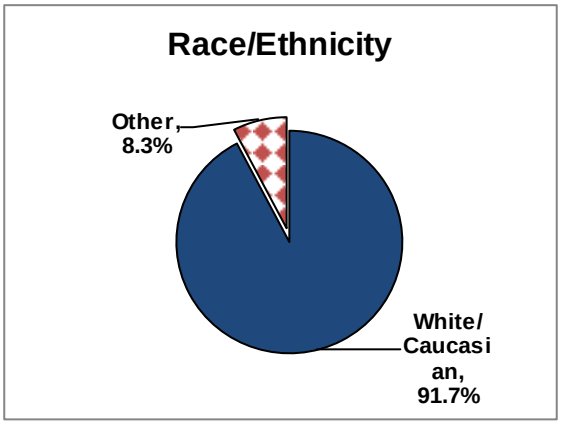


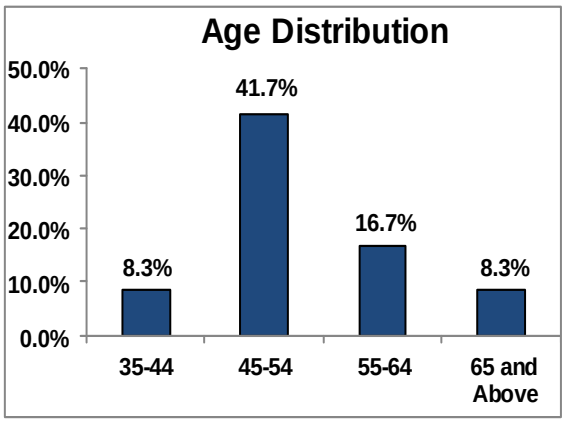
Works Cited

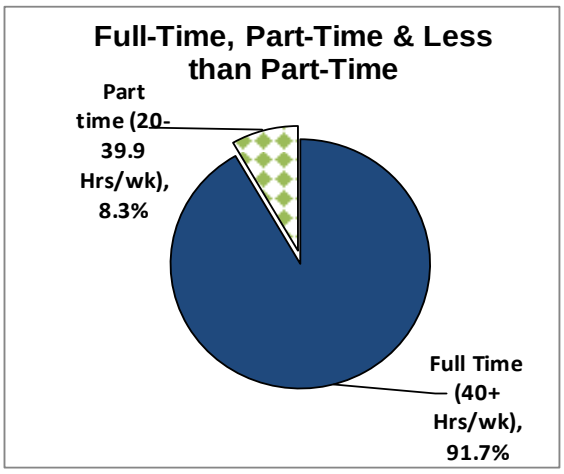
American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* American Medical Association.

Williams, T. E., & Ellison, C. (2008, May 29). Population Analysis Predicts a Future Critical Shortage of General Surgeons. *Surgery*, 548-56.





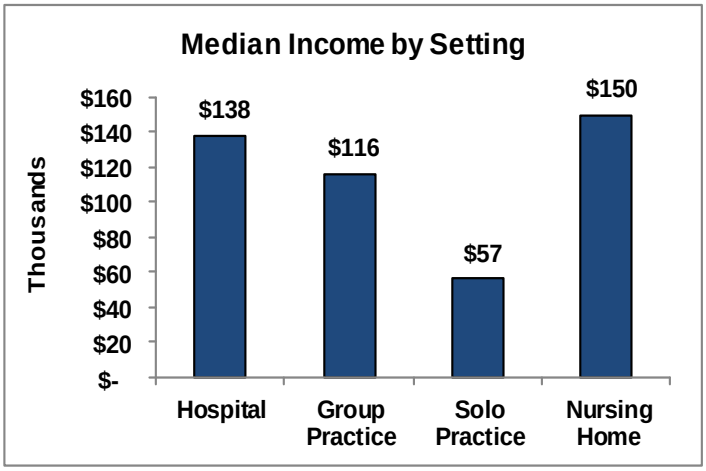




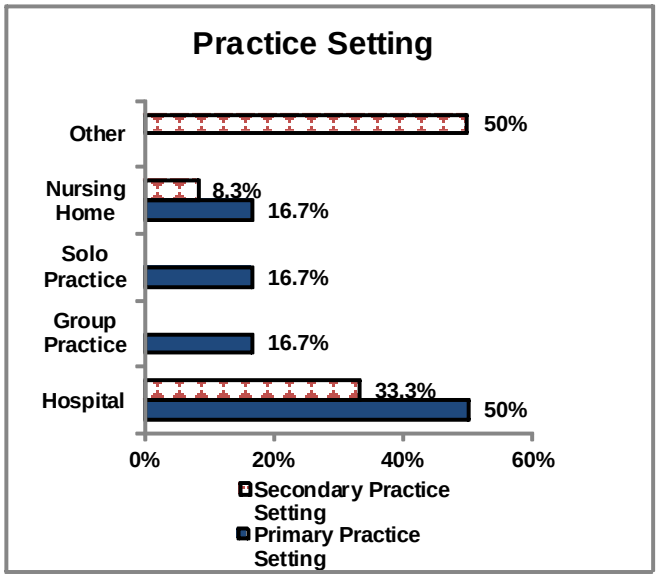
GERIATRICS

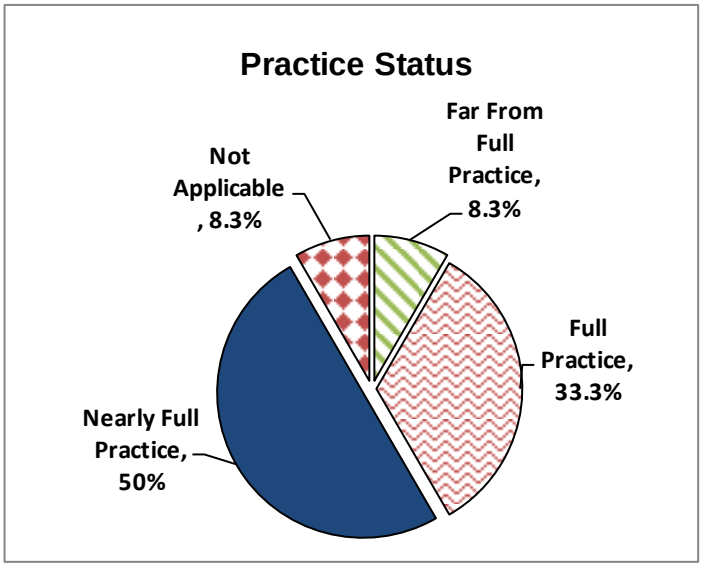
Count: 19 Physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 19
Total Hr. FTEs (60 hrs/wk= 1.5 FTE): 28
Average Hours per Week: 57
Median Ann. Income adj. for 40 hrs/wk: $110,490/yr Median Ann. Income reported by DWS: $47,265/yr

1. Baby boomers (those born between 1946-1964) are the single largest demographic group to pass through American Society and thus creating a great need for geriatricians. "Currently, there is one geriatrician for every 5000 adults age 65 and older. In 2030, it is estimated that there will only be one geriatrician for every 7,665 older adults, representing a 50% decline over the next 25 years." (The American Geriatrics Society) According to a report from the Utah Department of Human Services and the Center for Public Policy and Administration-University of Utah, "the 65 and older population will grow by 126,700 (51%) from 2010 to 2020, when baby boomers begin reaching age 65." (Utah Department of Human Services)
2. Currently, there are approximately 7,029 certified geriatricians in the United States, which is not enough to meet the needs of the elderly population (The American Geriatrics Society, 2011). 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 from 2000-2009, only 2,241 certificates have been issued in geriatric medicine (American Board of Medical Specialties, 2010, p. 27). This is about 224 physicians a year.
4. Utah has 19 self-reported geriatric care physicians, or 5.5 providers for every 100,000 Utahns aged 60 and above. This implies there are 18,117 Utahns aged 65 and older for every provider in Utah.
5. The University of Utah currently trains two fellows per year for two years.

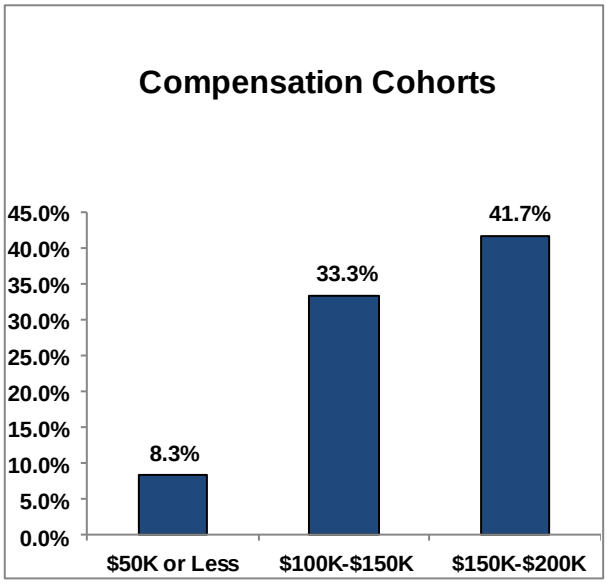


%Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do Not Accept	25.0%	16.7%	66.7%	50.0%	50.0%	58.3%
<25% of patients	41.7%	8.3%	16.7%	33%	33.3%	16.7%
25-50% of patients	8.0%	16.7%	0.0%	0.0%	0.0 %	0.0%
50-75% of patients	0.0%	25.0%	0.0%	0.0%	0.0%	8.3%
75-99% of patients	0.0%	8.3%	0.0%	0.0%	0.0%	0.0%
100% of patients	16.7%	16.7%	16.7%	16.7%	16.7%	16.7%



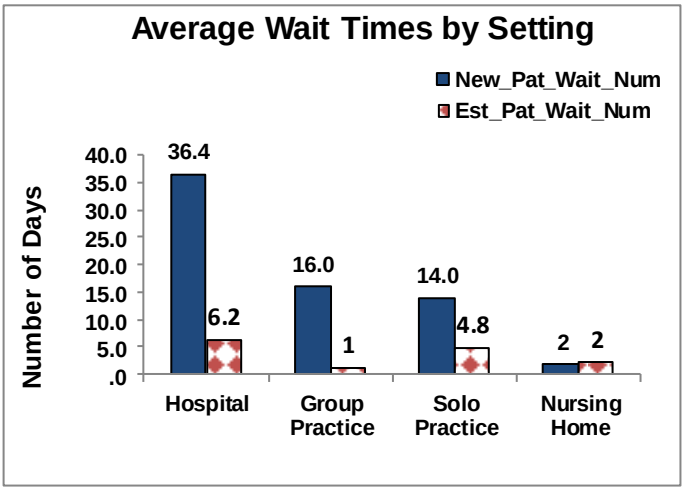


Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applica-ble
Patient Pay	8.3%	16.7%	58.3%	8.3%	8.3%
Insurance Rejecting Care	8.3%	41.7%	41.7%	8.3%	0.0%
Insurance Delaying and/or Denying	8.3%	33.3%	50.0%	8.3%	0.0%
Language/ Culture of patients	8.3%	0.0%	75.0%	16.7%	0.0%
Referrals	8.3%	8.3%	33.3%	50.0%	0.0%



Local Health District	% Physicians
Salt Lake	91.7%
Weber	8.3%

Patient Age Cohort	O/P	I/P
0-19	0.8%	0.0%
20-64	3.8%	4.5%
65-84	32.5%	32.9%
85+	37.9%	29.3%



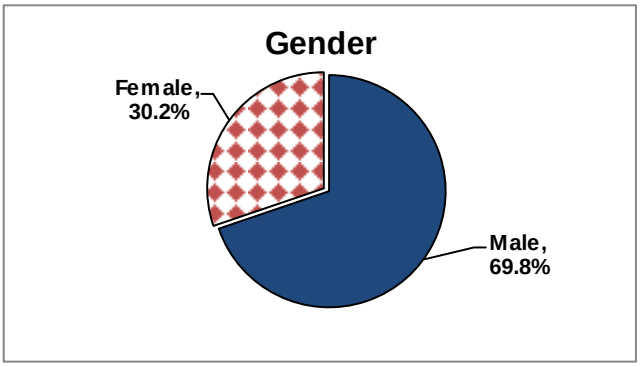
Works Cited

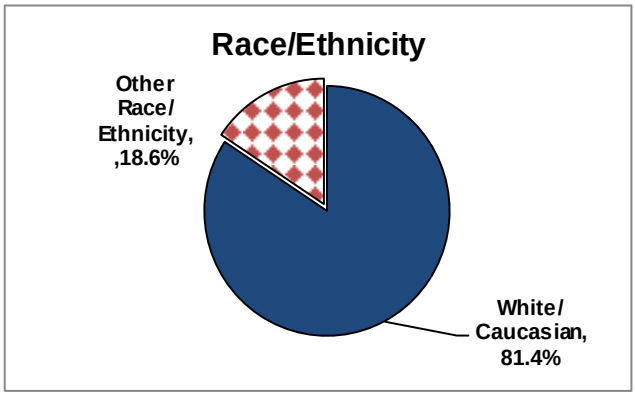
American Board of Medical Specialties. (2010). *2010 ABMS Certificate Statistics.* Retrieved 08 30, 2010, from http://www.abms.org: http://shopping.netsuite.com/s.nl/c.362273/sc.10/category.149/.f

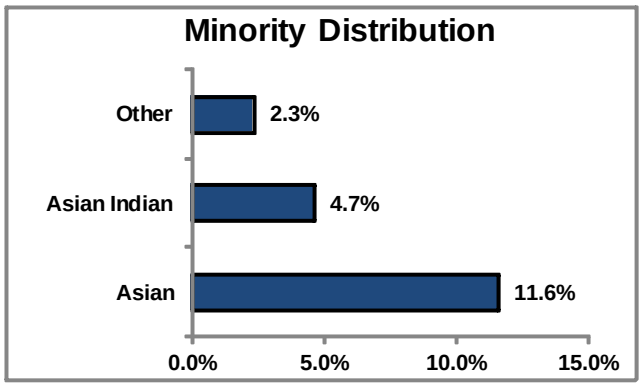
The American Geriatrics Society. (2011). *Current Geriatrician Shortfall.* New York: American Geriatrics Society.

The American Geriatrics Society. (n.d.). *Fact Sheet: The American Geriatrics Society (AGS)*. Retrieved September 12, 2011, from http://www.americangeriatrics.org/about_us/who_we_are/faq_fact_sheet/

Utah Department of Human Services. (n.d.). *The Utah Aging Initiative: Anticipating the Opportunities and Challenges of Our Aging Population.* Retrieved 08 30, 2011, from www.cppa.utah.edu: http://www.cppa.utah.edu/publications/aging/DemographicBook.pdf



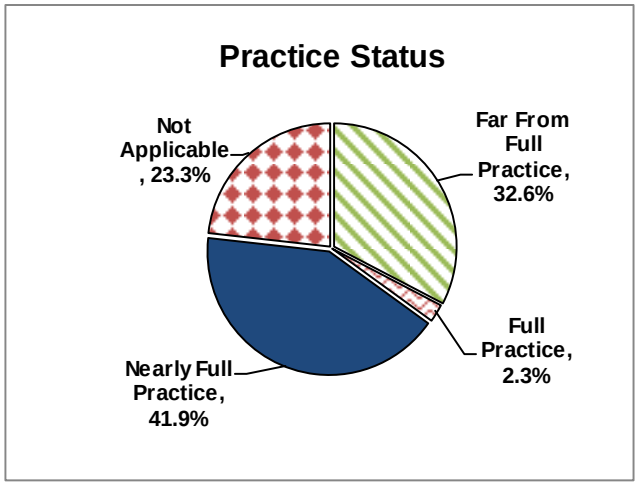


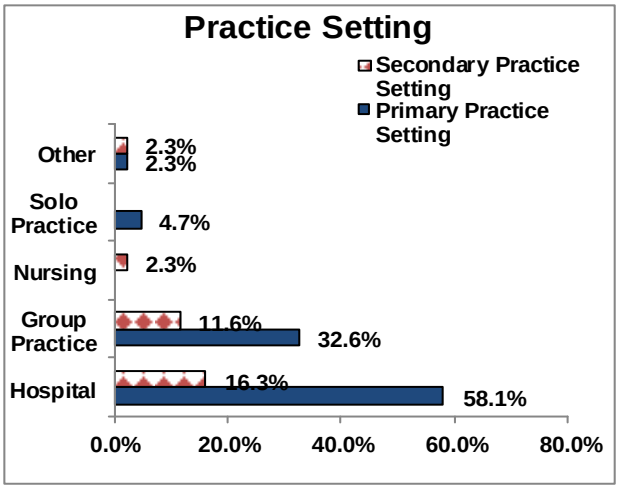


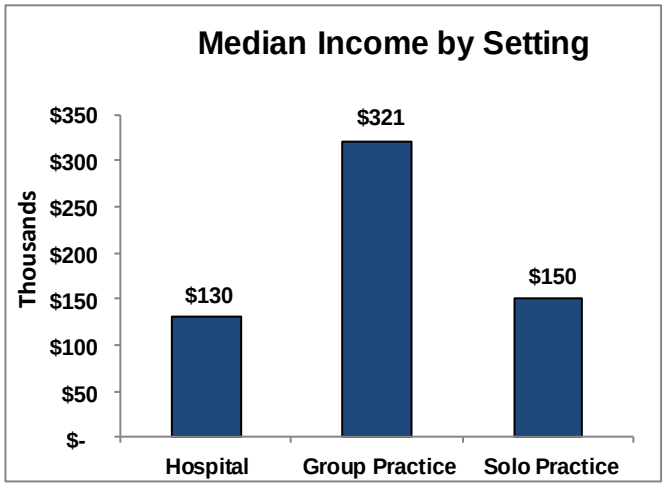
HEMATOLOGY/ONCOLOGY

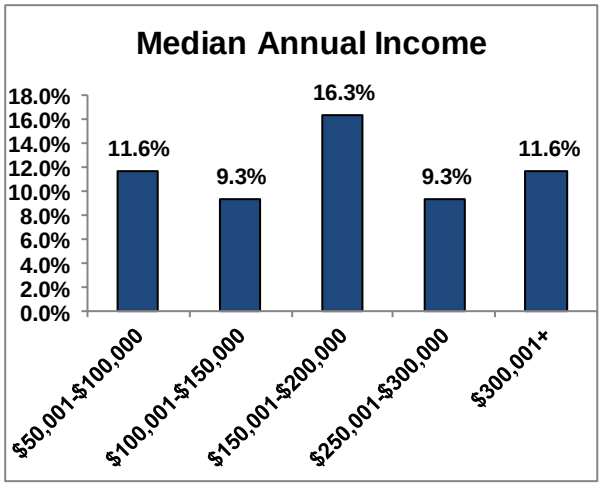
Count: 70 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 68
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 94
Average Hours per Week: 54
Median Ann. Income adj. for 40 hrs/wk: $171,389/yr
Median Ann. Income reported by DWS: $192,641/yr

1. There are a total of 70 hematologists, oncologists, and hematology/oncology specialists in Utah, placing the population-to-provider ratio at 40,126. This places the provider-to-100,000 population ratio at 2.5.
2. Nationally, there are 12,548 hematologists, oncologists, and hematology/oncology specialists according to the AMA 2008 data. (American Medical Association (AMA) , 2010, pp. 22,24) This places the national population-to-provider ratio at 24,276; and the provider-to-100,000 population ratio at 4.1.
3. Hematology/oncology is not perceived as a high need area in Utah. Nationally it has been assessed that despite the growth in supply and capacity of oncologists, the demand will exceed the supply. "Unless there is a dramatic change in cancer care treatment or delivery between now and 2020, the nation is expected to face an acute shortage of oncologists (medical oncologists, hematologist/ oncologists, and gynecologic oncologists.)" (Association of American Medical College, 2007, p. 1)
4. The Hematology-Oncology fellowship program is a three year program with 4 slots per year. UMEC retention tracking data shows that the program retained about 43% of its graduates since 1998.

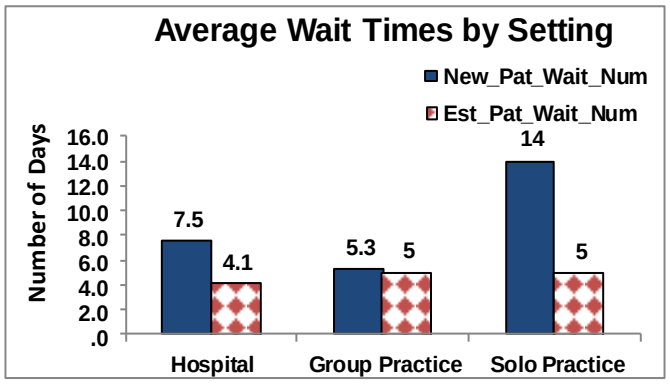


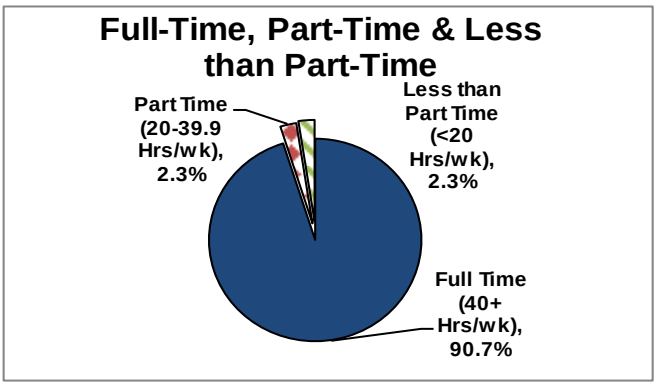


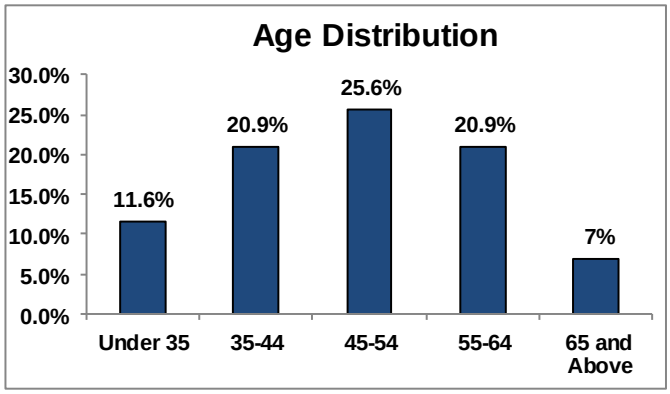




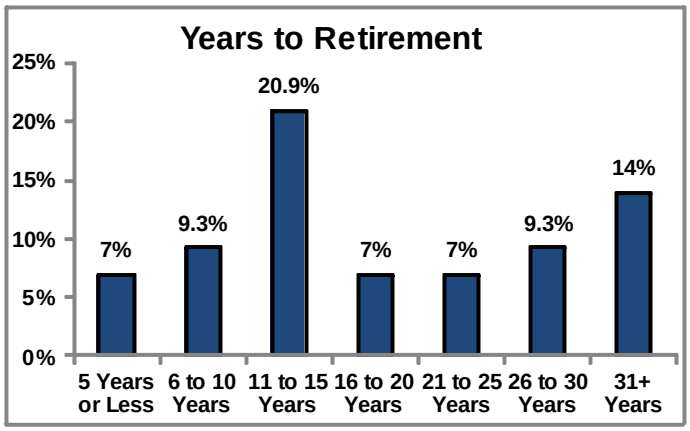
% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	14%	11.6%	23.3%	20.90%	12%	37.2%
Less than 25% Patients	46.5%	4.7%	46.5%	49%	4.7%	30.2%
25-50% of Patients	9.3%	46.5%	0.0%	0.0%	46.5%	2.3%
50-75% of Patients	0.0%	7%	0.0%	0.0%	4.5%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
100% of Patients	30.2%	30.2%	30.2%	30.2%	30.2%	30.2%







Patient Age Cohort	O/P	I/P
0-19	8.5%	8.1%
20-64	37.5%	30.8%
65-84	42.4%	39.4%
85+	6.1%	5.2%



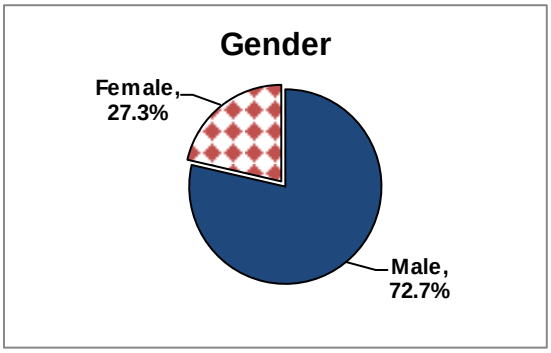
Local Health District	Percentage Physicians
Davis	2.3%
Salt Lake	60.5%
Southwest	9.3%
Utah	4.7%
Weber-Morgan	2.3%
Out of State	18.6%

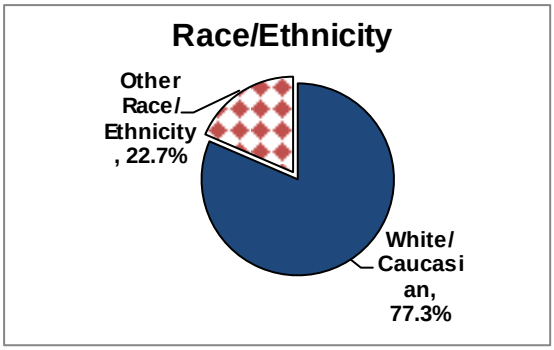
Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	7.0%	46.5%	27.9%	11.6%	7.0%
Insurance Rejecting Care	11.6%	44.2%	34.9%	4.7%	4.7%
Insurance Delaying and/or Denying	11.6%	44.2%	34.9%	4.7%	4.7%
Language/Culture of patients	14.0%	7.0%	55.8%	20.9%	32.6%
Referrals	14.0%	2.3%	30.2%	48.8%	4.7%

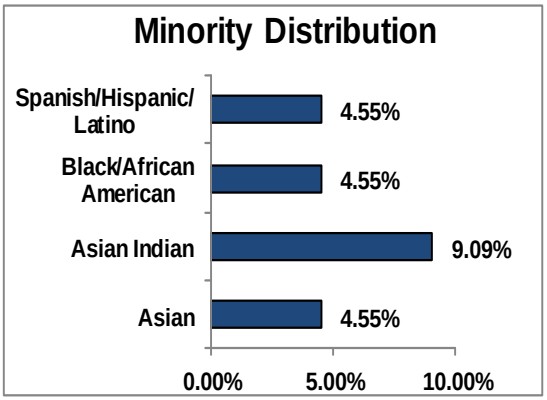
Works Cited

American Medical Association (AMA) . (2010). *Physician Characteristics and Distribution in the US 2010 Edition.*

Association of American Medical College. (2007). *Forecasting the Supply of and Demand for Oncologist: A Report to the American Society of Clinical Oncology (ASCO) from the AAMC Center for Workforce Studies.* Retrieved 08 30, 2010, from www.asco.org: http://www.asco.org/ASCO/Downloads/Cancer%20Research/Oncology%20Workforce%20Report%20FINAL.pdf







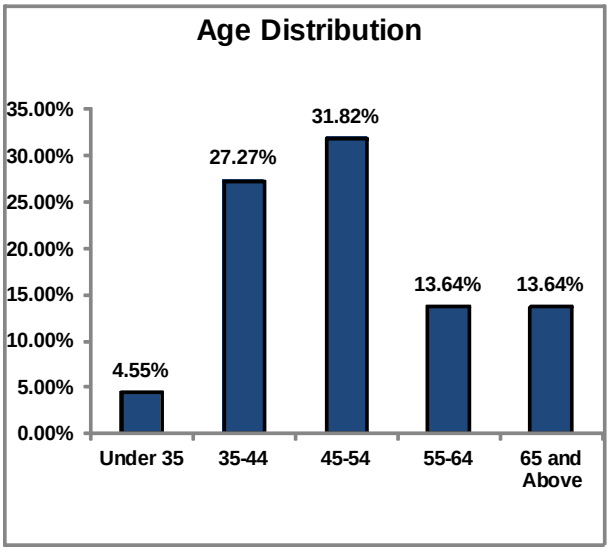
INFECTIOUS DISEASE:

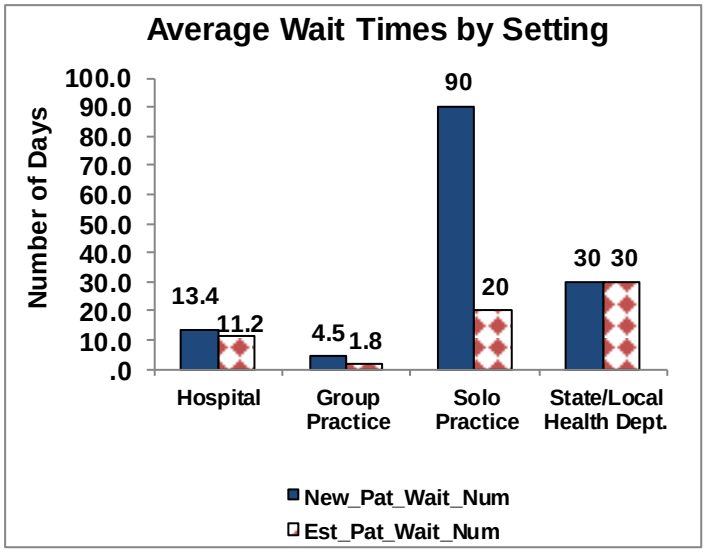
Count: 36 physicians
Standardized FTEs (40 or more hrs/wk = 1 FTE): 36
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 50
Average Hours per Week: 56
Median Ann. Income adj. for 40 hrs/wk: $86,970/yr
Median Ann. Income reported by DWS: $103,190 /yr

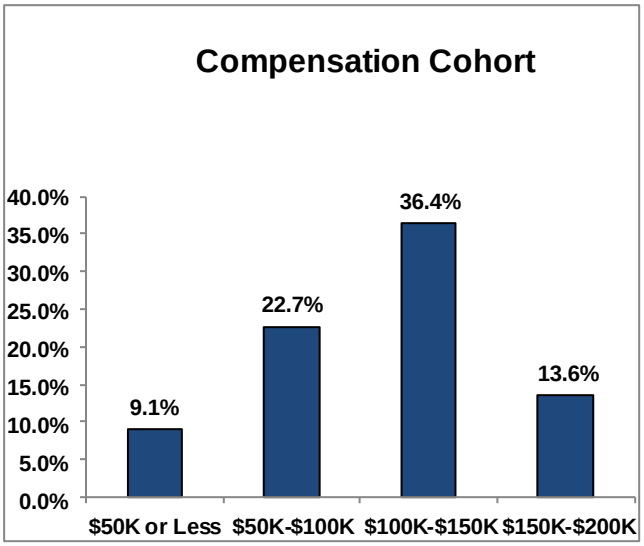
1. Utah had 36 infectious disease specialists in 2010, resulting in a physician-to-100,000 population ratio of 1.3. Nationally, this ratio was 2.2 in 2008. (American Medical Association, 2010, p. 23)
2. The UMEC data suggest that the current ratio of providers in this specialty is adequate for the state 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 2010, Utah physicians saw an average of 59 patients per week whereas physicians nationwide reported an average of 65.8 patients per week in 2005. (Hospital & Healthcare Compensation Service, 2005).
3. Utah currently has one fellowship training program that trains three fellows per year. Over the past 10 years, they have retained approximately 37% of their graduates in Utah.

Local Health District	Percentage Physicians
Salt Lake	50.0%
South West	4.5%
Out of State	45.5%

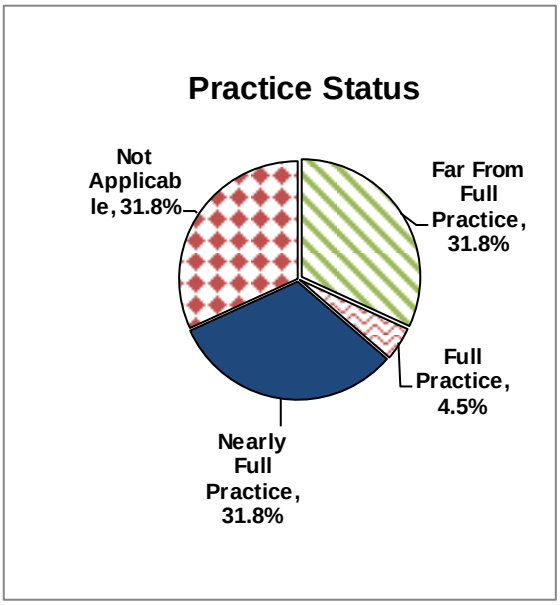
Patient Age Cohort	O/P	I/P
0-19	8.1%	6.4%
20-64	58.0%	41.2%
65-84	24.7%	35.1%
85+	3.8%	6.7%

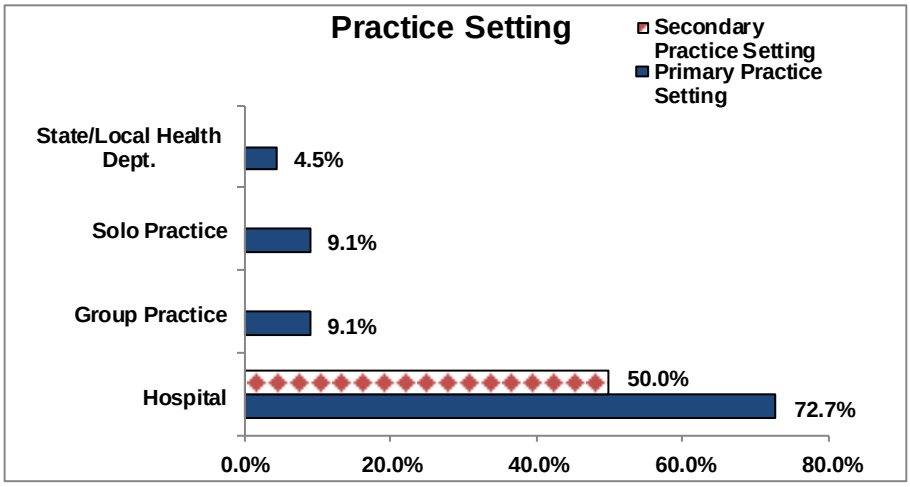


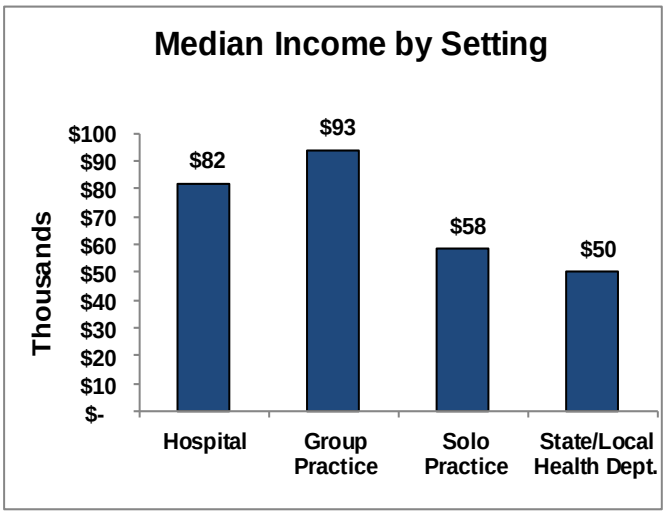


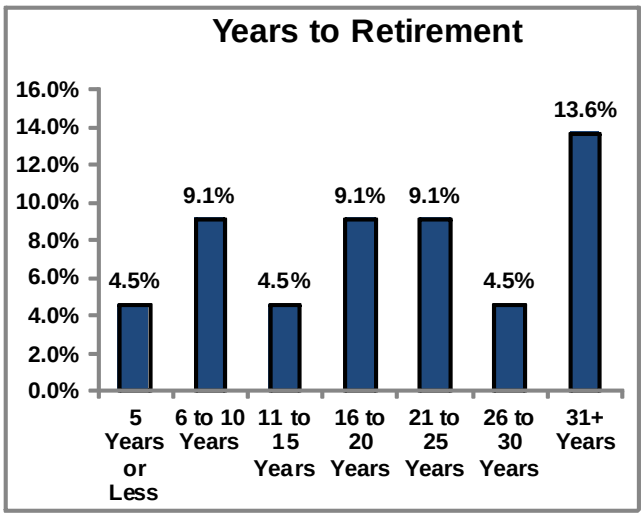


Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	99.1%	40.9%	22.7%	13.6%	13.6%
Insurance Rejecting Care	9.1%	22.7%	31.8%	22.7%	13.6%
Insurance Delaying and/or Denying	4.5%	31.8%	31.8%	18.2%	13.6%
Language/ Culture of patients	4.5%	0.0 %	54.5%	27.3%	13.6%
Referrals	4.5%	4.5%	36.4%	45.5%	9.1%







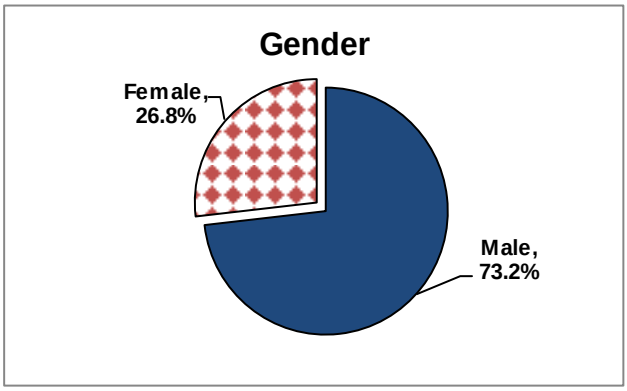


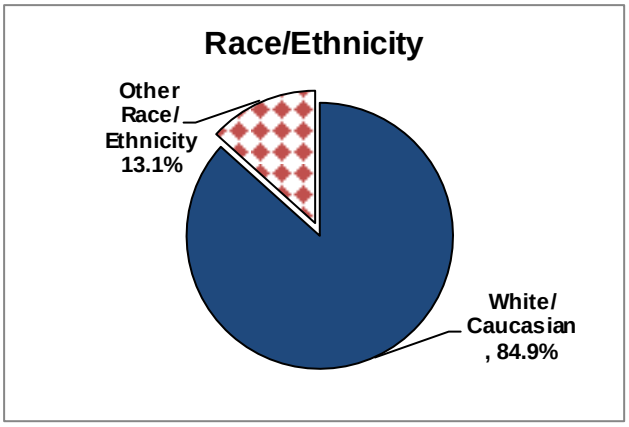
% Patients	Medicaid	Medicare	Charity	Unin-sured	Insured	VA
Do Not Accept	274.3%	31.8%	59.1%	36.4%	23.0%	50.0%
<25% of patients	36.4%	27.3%	18.2%	27.3%	13.6%	4.5%
25-50% of patients	18.2%	22.7%	4.5%	13.6%	31.8%	13.6%
50-75% of patients	0.0%	0.0%	0.0%	0.0%	4.5%	0.0%
75-99% of patients	0.0%	0.0%	0.0%	0.0%	0.0%	13.6%
100% of patients	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%

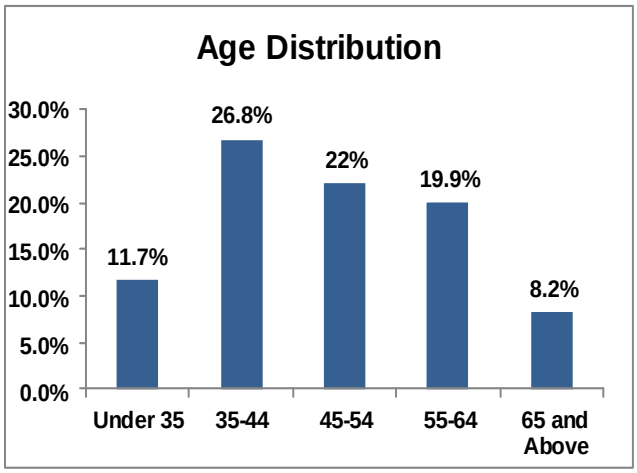
Works Cited

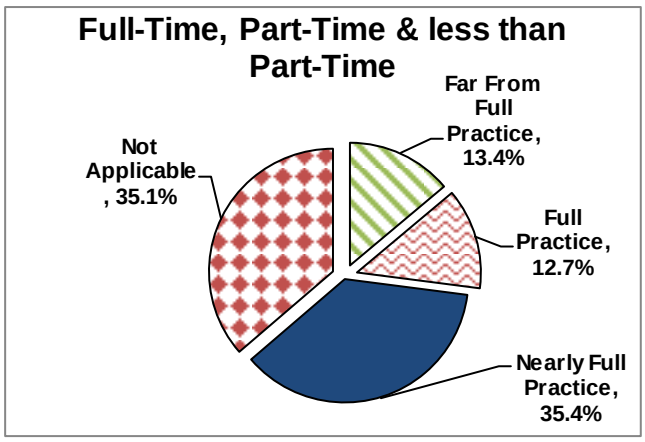
American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.

Hospital & Healthcare Compensation Service. (2005). *Physician Salary Survey Report.*







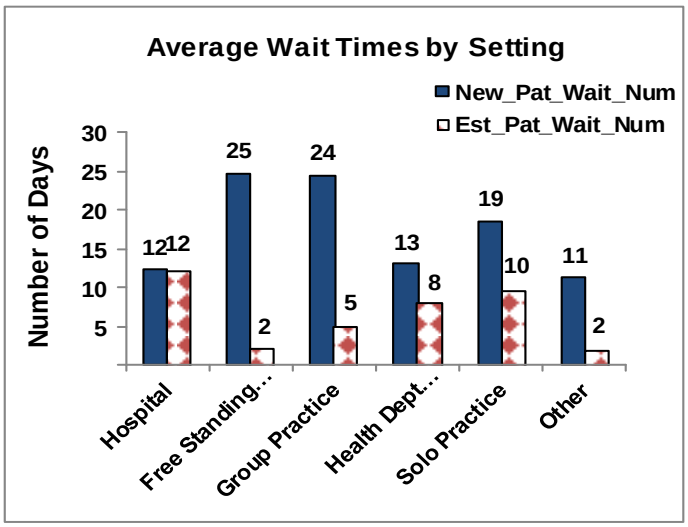


GENERAL INTERNAL MEDICINE:

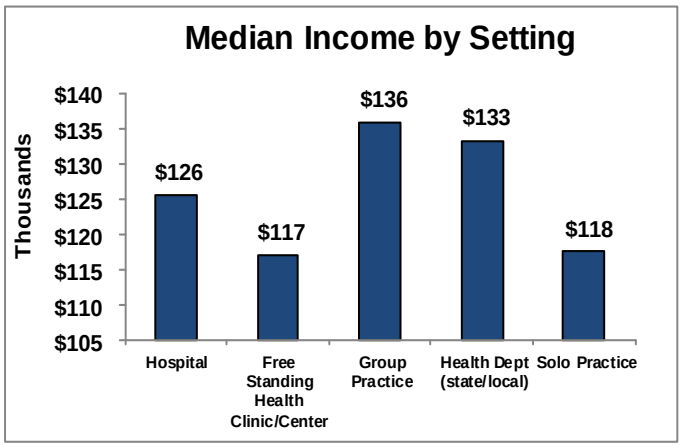
Count: 472 Physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 439
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 583
Average Hours per Week: 49
Median Ann. Income adj. for 40 hrs/wk: $128,000/yr
Median Ann. Income reported by DWS: $92,955/yr

1. According to the UMEC survey data, Utah had 16.9 general internists per 100,000 population in 2010 compared to the national average of 37.9 physicians per 100,000 populations in 2008. (American Medical Association, 2010, pp. 23,454)
2. This number includes at least 87 hospitalists.*
3. The UMEC demand study recognized general internal medicine as an area of severe shortage in the state.
4. The average age of a general internal medicine physician in Utah is 48.6 years .
5. About 28% of general internists in Utah are aged 55 and above, set to retire in the next 10 to 15 years.
6. According to the National Resident Matching Program, the percentage of positions filled since 2007 has remained steady at 98%. There were 4,798 positions offered in 2007 and 5,121 positions offered in 2011, a 6.7% growth. The primary track has seen only a 4.4% growth over the same time period (from 274 positions offered in 2007 to 286 positions in 2011). Only about 58% of these positions are filled by US medical school graduates. (National Resident Matching Program, 2011, p. 15).

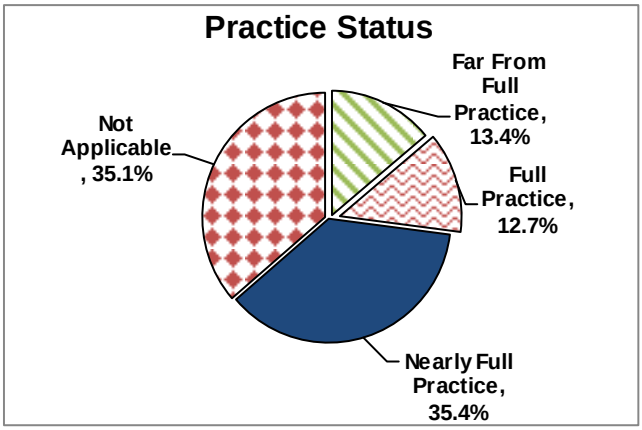
*This is a survey limitation in that the survey instrument did not include 'Hospitalists' as a specialty option. The data was collected later by calling the local hospitals about the number of hospitalists they employ, and their practice hours.



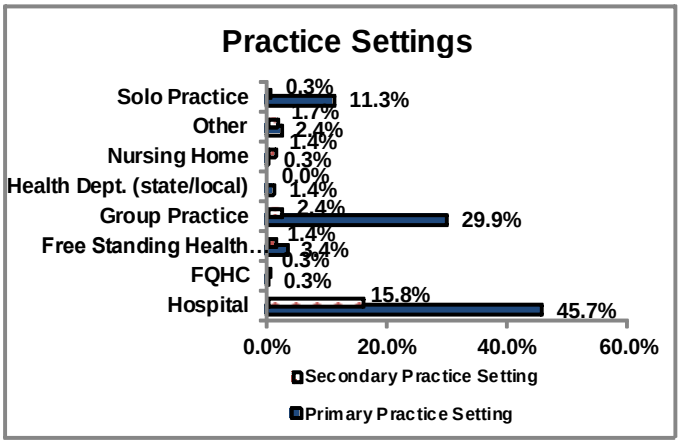
68.8% of general internal medicine physicians in Utah see office out-patients; 8.6% see urgent care out-patients; 5.8% see ER out-patients; 49.2% see hospital in-patients; and 7.2% see extended care in-patients.



The median annual income for a general internal medicine physician is $160,000. When adjusted for hours worked, the median annual income is $128,000 per year per FTE (40 hours per week, 52 weeks per hour). On average, an internal medicine physician works 49.4 hours per week.



18.6% of physicians limit Medicaid patients they accept, 12% limit Medicare patients they accept, 6.2% limit uninsured patients they accept, 5.2% limit insured patients that they can accept and 57% said they do not limit any of these patients.

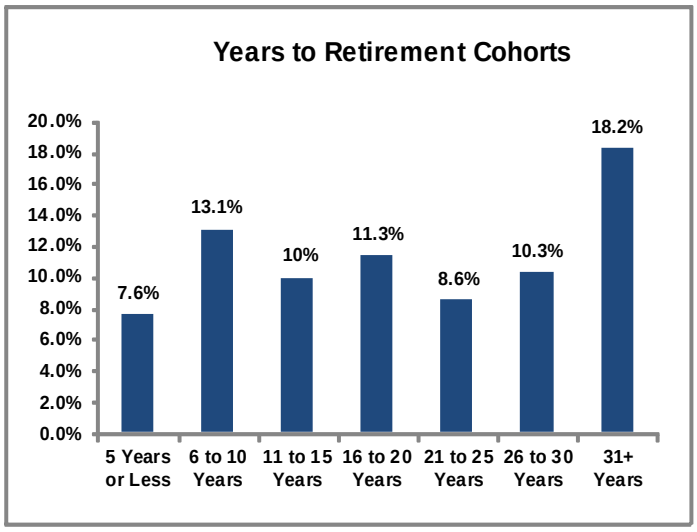


Issue	Miss-ing	Major Issue	Minor Issue	Not an Issue	Not Appli-cable
Patient Pay	9.6%	35.4%	31.3%	12.0%	11.7%
Insurance Rejecting Care	10.7%	35.1%	35.1%	10.3%	8.9%
Insurance Delaying and/or Denying	10.3%	29.9%	38.8%	11.0%	10.0%
Language/ Culture of patients	9.3%	3.4%	53.6%	27.8%	5.8%
Referrals	8.9%	10.7%	44%	28.5%	7.9%

No. of Utah Factors	Utah Upbringing	Utah Medical School	Utah Residency	Number of Physicians	Percent in Utah Practice
0	No	No	No	123	26.1%
1	Yes	No	No	42	8.9%
	No	Yes	No	6	1.4%
	No	No	Yes	120	25.4%
2	Yes	Yes	No	37	7.9%
	Yes	No	Yes	39	8.3%
	No	Yes	Yes	11	2.4%
3	Yes	Yes	Yes	52	11.0%
Unknown				40	8.5%
Total				472	100.0%

% Patients	Medicaid	Medicare	Charity	Un-insured	Insured	VA
Do Not Accept	65.0%	8.9%	35.1%	15.5%	11.3%	43.0%
<25% of patients	25.3%	10.3%	38.1%	54.6%	19.6%	27.1%
25-50% of patients	6.2%	35.4%	0.3%	3.1%	34.0%	0.0%
50-75% of patients	0.7%	15.8%	0.0%	0.0%	8.2%	0.7%
75-99% of patients	0.3%	3.4%	0.3%	1.0%	1.0%	0.3%
100% of patients	0.0%	0.7%	0.7%	0.3%	0.3%	3.4%

Local Health District	% Providers
Bear River	3.4%
Central	0.3%
Davis	7.2%
Salt Lake	46.7%
Southeastern	0.7%
Southwest	6.9%
Summit	2.1%
Tooele	1.0%
Tri-County	1.0%
Utah	8.2%
Wasatch	NA
Weber-Morgan	4.5%

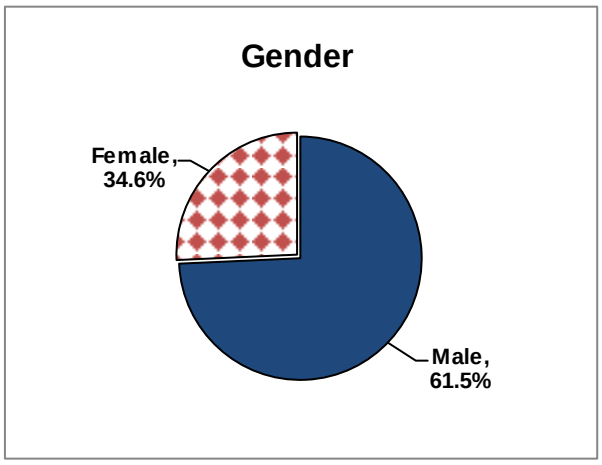


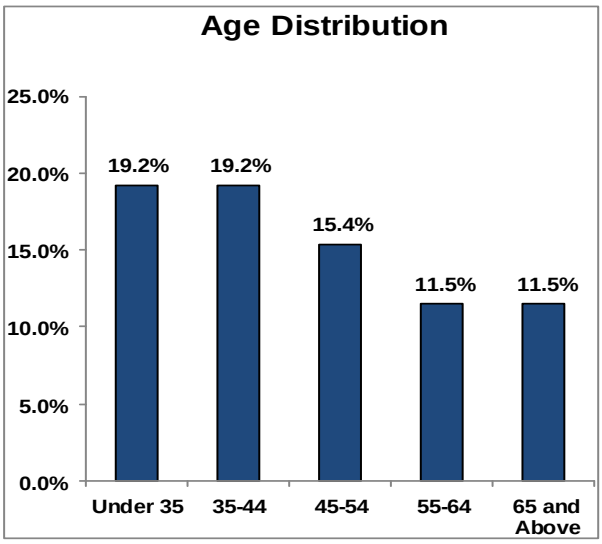
Patient Age Cohort	O/P	I/P
0-19	4.6%	2.1%
20-64	28.2%	14.0%
65-84	31.9%	23.7%
85+	10.5%	9.5%

Works Cited

American Medical Association. (2010). *Physician Characteristics and Distribution in the US, 2010 Edition (2008 Data).* AMA.

National Resident Matching Program. (2011, 02). *Results & Data: Specialties Matching Services 2011 Appointment Year*. Retrieved 09 5, 2011, from http://www.nrmp.org/data/resultsanddatasms2011.pdf



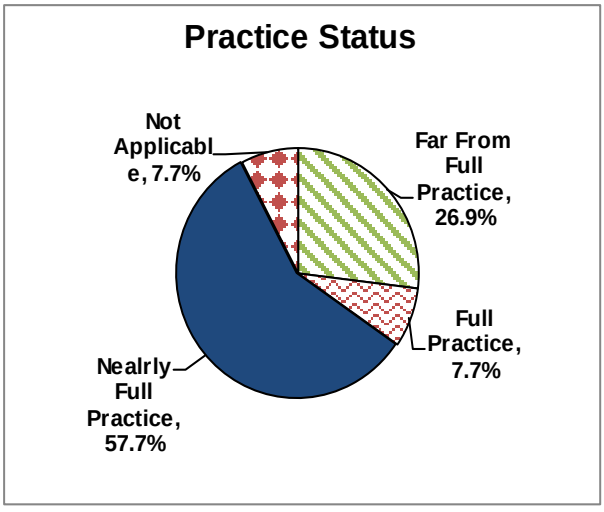


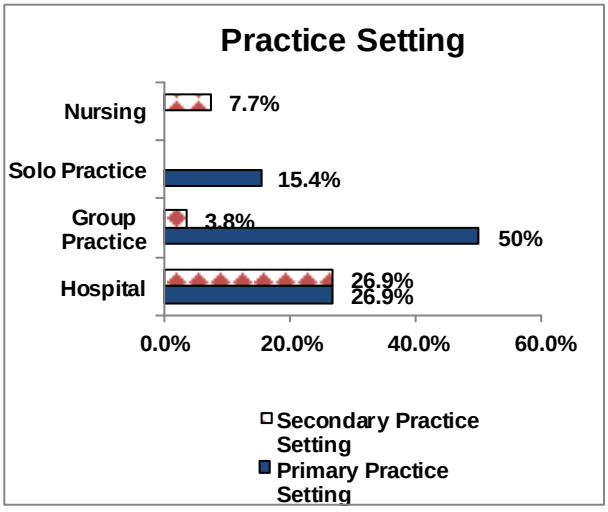
INTERNAL MEDICINE, PEDIATRICIANS:

Count: 42 physicians
Standardized FTEs (40 or more hrs/wk = 1 FTE): 39
Total Hr. FTEs (60 hrs/wk= 1.5 FTE): 57
Average Hours per Week: 54
Median Ann. Income adj. for 40 hrs/wk: $120,000/yr
Median Ann. Income reported by DWS: $51,082/yr

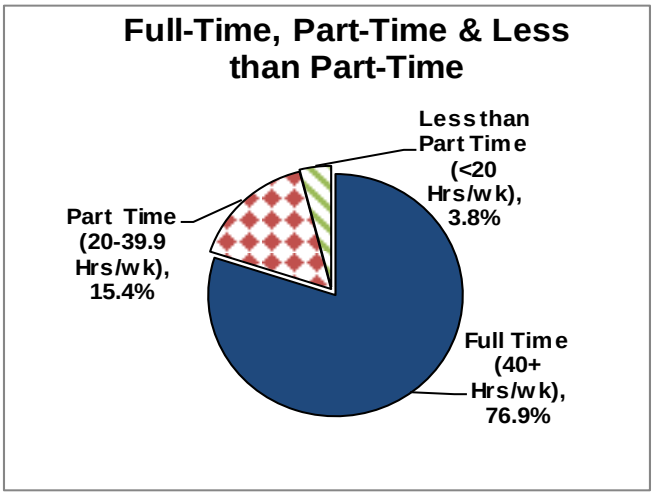
1. There are 42 internal medicine pediatric specialists in Utah, placing the provider-to-100,000 population (less than 18 years old) in Utah at 4.9.
2. There were 4,184 internal medicine pediatricians in the United States in 2008. (American Medical Association (AMA), 2010, p. 23)
3. The internal medicine pediatricians in Utah care for patients across all age groups, typical of most internal medicine pediatricians across the nation. (Lannon, Oliver, & Guerin, 1999)

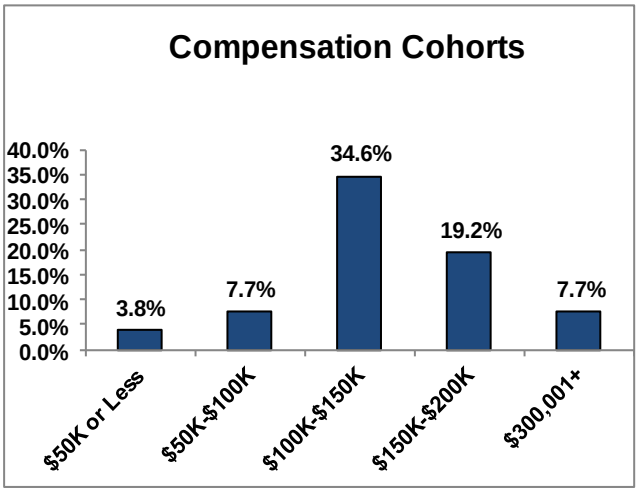
Patient Age Cohort	O/P	I/P
0-19	17.2%	19.3%
20-64	18.2%	12.1%
65-84	31.8%	17.1%
85+	20.3%	7.6%





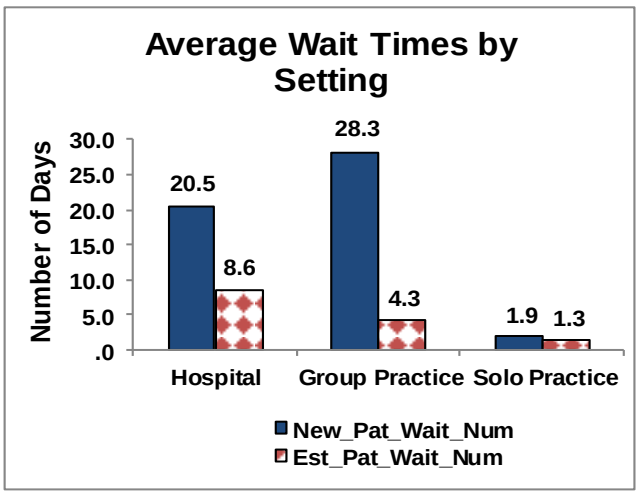
Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	23.1%	30.8%	34.6%	3.8%	7.7%
Insurance Rejecting Care	19.2%	23.1%	46.2%	3.8%	7.7%
Insurance Delaying and/or Denying	19.2%	26.9%	42.3%	3.8%	7.7%
Language/Culture of patients	19.2%	11.5%	46.2%	19.2%	3.8%
Referrals	23.1%	15.4%	38.5%	19.2%	3.8%

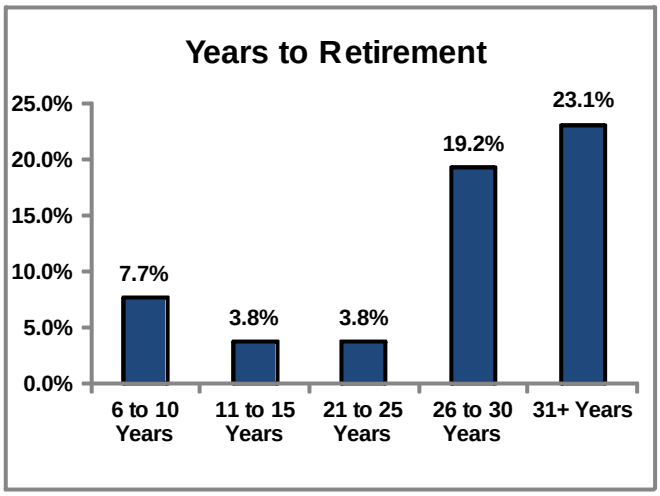




% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	7.7%	11.5%	50.0%	26.9%	8.0%	53.8%
Less than 25% Patients	42.3%	26.9%	26.9%	50.0%	34.6%	15.4%
25-50% of Patients	11.5%	30.8%	0.0%	0.0%	30.8%	0.0%
50-75% of Patients	15.4%	3.8%	0.0%	0.0%	3.8%	3.8%
75-99% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
100% of Patients	0.0%	3.8%	0.0%	0.0%	0.0%	0.0%

Local Health District	%Physicians
Bear River	3.8%
Davis	11.5%
Salt Lake	46.2%
Southwest	3.8%
Utah	19.2%
Out of State	15.4%

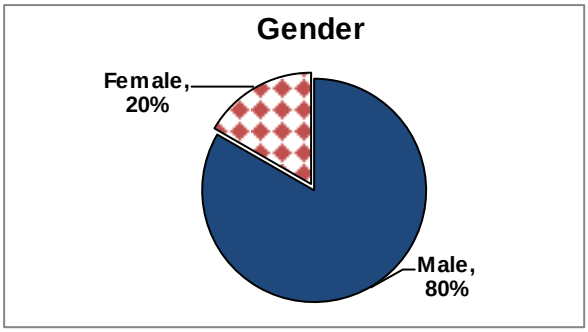


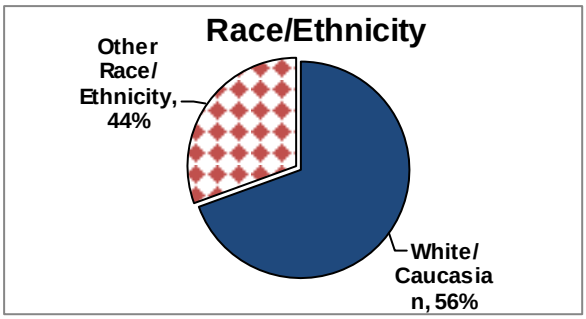


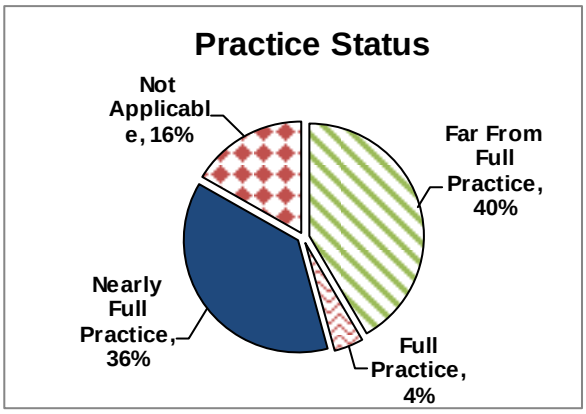
Works Cited

American Medical Association (AMA). (2010). *Physician Characteristics and Distribution in the US 2010 Edition.*

Lannon, C., Oliver, T., & Guerin, R. (1999). Internal Medicine–Pediatrics Combined: What Are They Doing Now? Results of a Survey. *Archives of Pediatrics & Adolescent Medicine, 153*(August), 823-8.



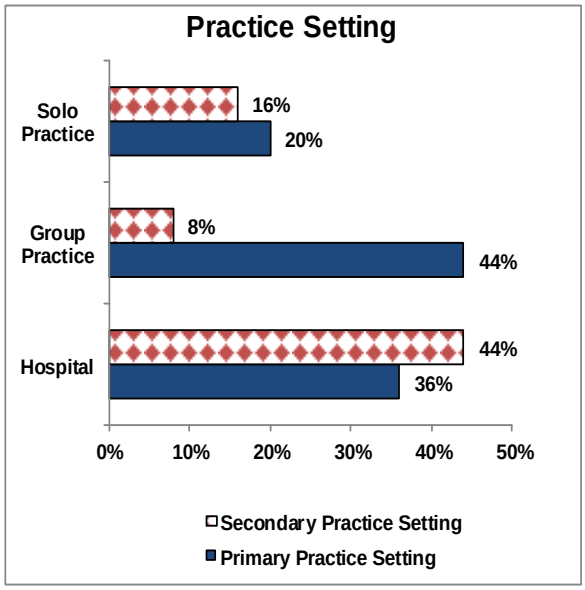


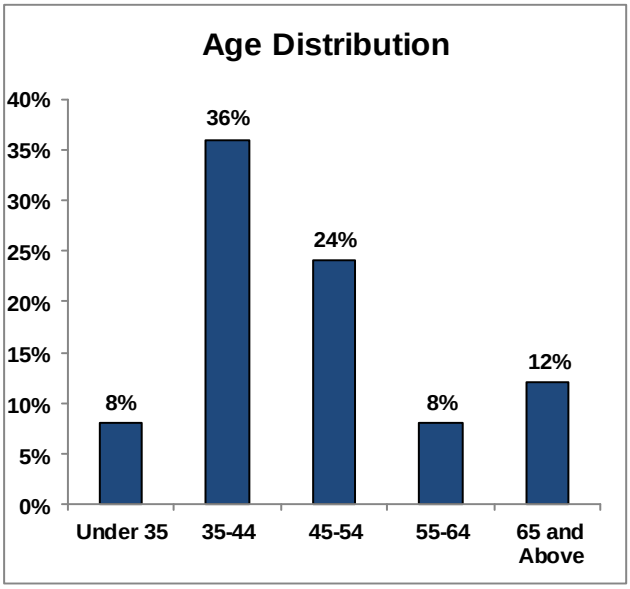


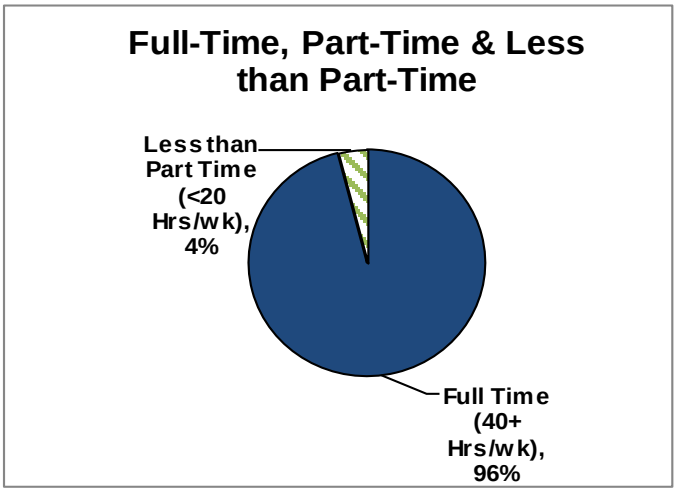
NEPHROLOGISTS:

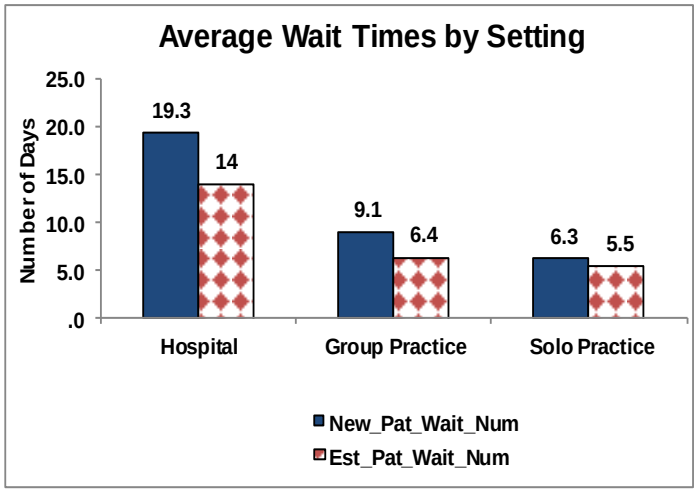
Count: 41 Physicians
Standardized FTEs(40 or more hrs/wk=1FTE): 40
Total Hr. FTEs (60 hrs/wk= 1.5 FTE): 54
Average Hours per Week: 54
Median Ann. Income adj. for 40 hrs/wk: $147,727/yr
Median Ann. Income reported by DWS: $95,291/yr

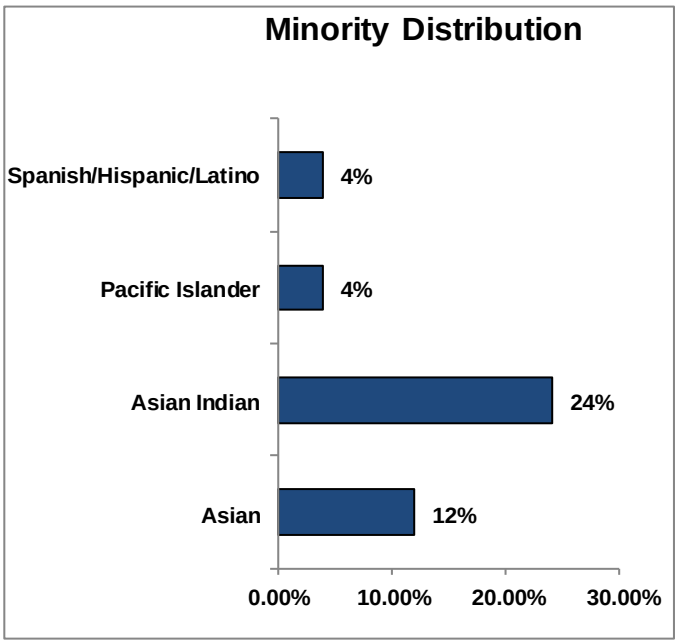
1. "The need for nephrologists continues to grow every year yet nephrology was one of the two internal medicine subspecialties to attract fewer fellows in 2009 than 2002." (Parker, Ibrahim, Shaffer, Rosner, & Molitoris, 2011, p. 1)
2. The AMA reported that there were 7,782 nephrologists practicing in the U.S. for a ratio of 2.6 per 100,000. (American Medical Association, 2010, p. 23)
3. There are 41 nephrologists practicing in Utah. This translates to 1.4 providers -to-100,000 populations, or in other words there are 69,017 Utahns per provider.
4. UMEC demand study suggests that there are enough nephrologists in Utah, and nephrology is not recognized as an area of shortage in the state.



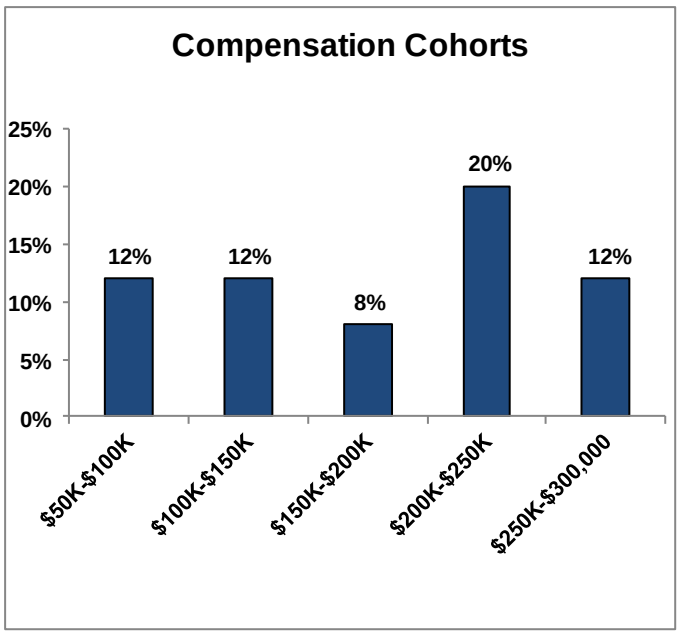


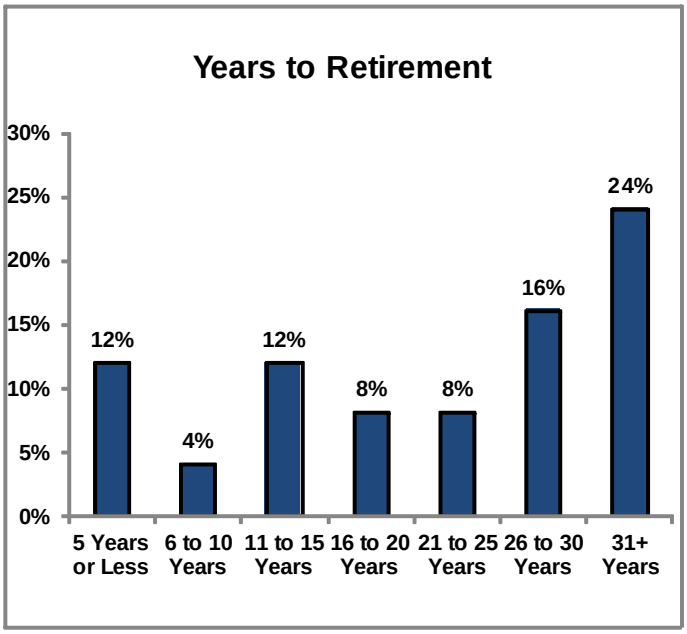


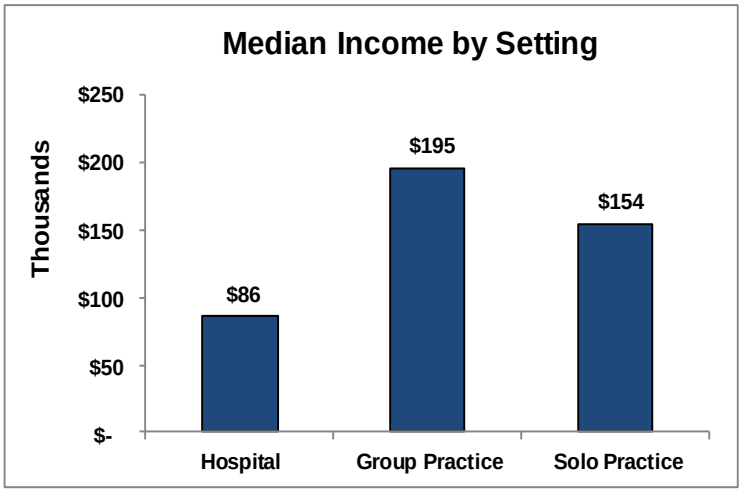




Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	12.0%	40.0%	36.0%	12.0%	-
Insurance Rejecting Care	20.0%	36.0%	36.0%	8.0%	-
Insurance Delaying and/or Denying	20.0%	40.0%	28.0%	8.0%	4.0%
Language/ Culture of patients	20.0%	8.0%	52.0%	20.0%	-
Referrals	16.0%	4.0%	44.0%	36.0%	-







Local Health District	Percentage Physicians
Davis	12.0%
Salt Lake	40.0%
Southwest	8.0%
Utah	12.0%
Weber-Morgan	4.0%

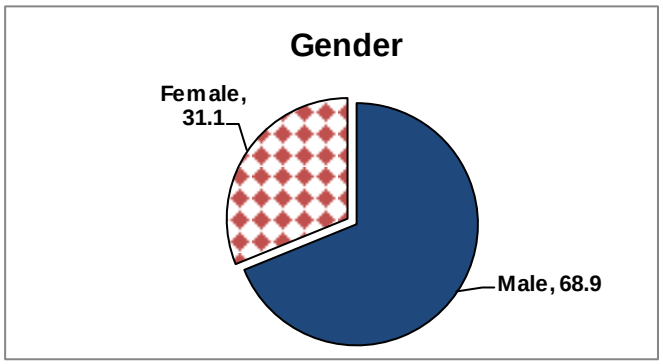
% Patients	Medicaid	Medicare	Charity	Unin-sured	Insured	VA
Do not accept	8.0%	0.0%	48.0%	28.0%	4.0%	56.0%
Less than 25% Pa-tients	56.0%	8.0%	36.0%	52.0%	44.0%	24.0%
25-50% of Patients	16.0%	40.0%	0.0%	4.0%	36.0%	4.0%
50-75% of Patients	4.0%	32.0%	0.0%	0.0%	0.0%	0.0%
75-99% of Patients	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%
100% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

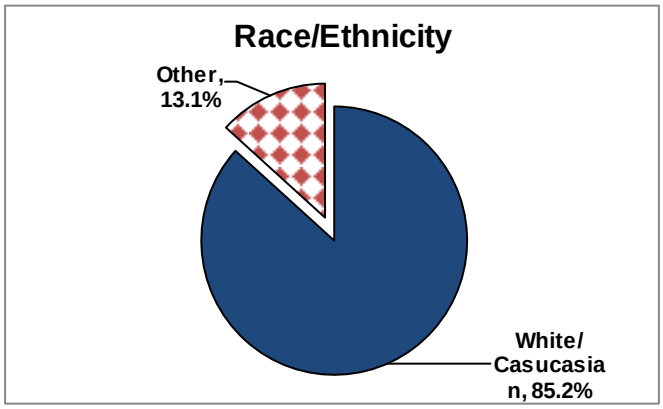
Patient Age Cohort	O/P	I/P
0-19	1.6%	5.9%
20-64	35.9%	27.6%
65-84	48.2%	48.0%
85+	9.7%	9.6%

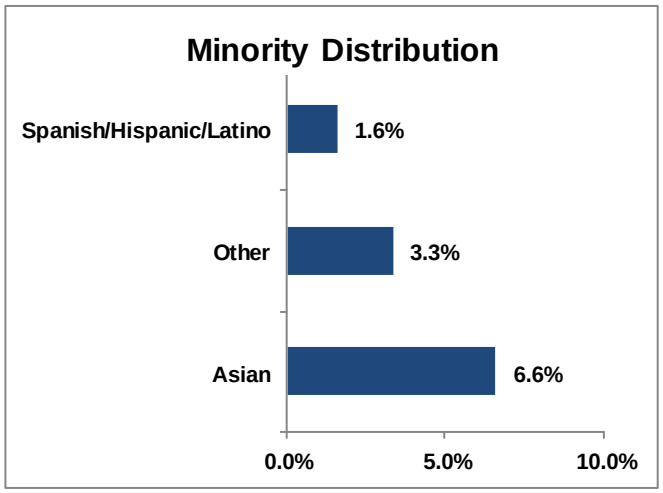
Works Cited

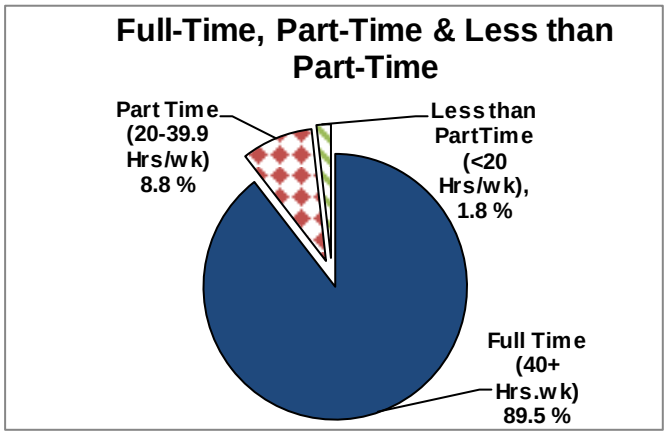
American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.

Parker, M. G., Ibrahim, T., Shaffer, R., Rosner, M. H., & Molitoris, B. A. (2011). The Future Nephrology Workforce: Will There Be One? *Clinical Journal of the American Society of Nephrology*, 1501-1506.





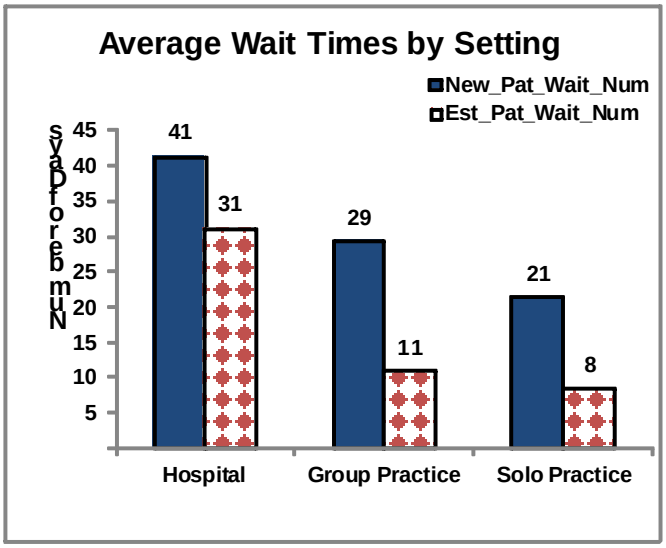


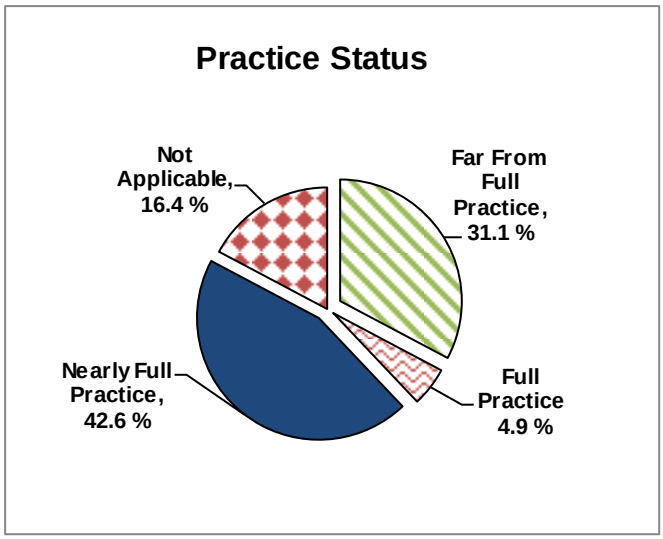


NEUROLOGISTS:

Count: 99 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 96
Total Hr. FTEs (60 hrs/wk= 1.5 FTE): 135
Average Hours per Week: 54.5
Median Ann. Income adj. for 40 hrs/wk: $133,333/yr
Median Ann. Income reported by DWS: $109,160/yr

1. In 2000, the Workforce Task Force of the American Academy of Neurology (AAN) recommended that the 1998 ratio of 3.7 adult neurologists-to-100,000 population was appropriate for the U.S. until 2020, after which, supply will fall 20% below demand. This research is scheduled to be updated in 2012. (Bradley & AAN, 2000)
2. According to the UMEC physician workforce survey, there are 99 neurologists providing services in Utah. This translates to 3.5 neurologists per 100,000 population in Utah. When assessed for population aged 18 or more years, this ratio is 5.1 compared to 4.4 in 2003. Although this is above the AAN's recommended ratio of 3.8. Nationally, the neurologist -to-100,000 population ratio was 4.3 in 2008. (American Medical Association, 2010, p. 23)
3. While the wait-time to see a neurologist in Utah continues to be longer than many other specialties, the situation seems to have improved since 2003. In 2010, the average wait time for neurologists in Utah was 33 days for a new patient and 20 days for an established patient. These averages have decreased by 38% and 33% respectively since 2003.
4. The need for neurologists is expected to increase over the next five to 10 years due to America's aging population which increases cases of Alzheimer's disease and stroke victims. "The Alzheimer's Association projects 16 million Americans will be diagnosed with the disease by 2050, up from 5.4 million today." (Butcher, 2011).
5. Neurologists in Utah are relatively young with over 42% under the age of 44. This suggests longevity in the workforce .
6. The University of Utah neurology residency program currently trains 3 residents per year. Since 1998, Utah has retained about 42% of its Neurology program graduates annually. 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.
7. In addition to the supply statistics, 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. The survey data is limited in that the reduction in wait times cannot be definitively tied to this shift in care.

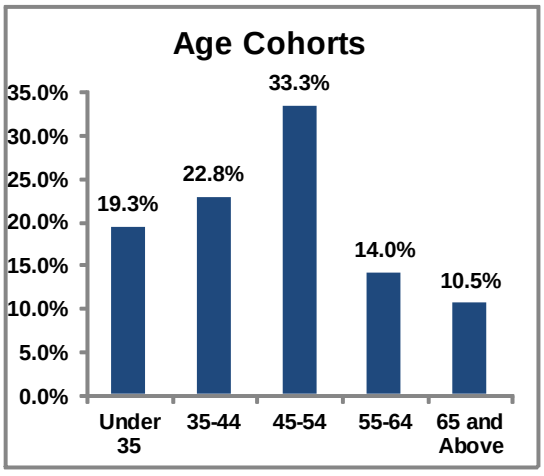


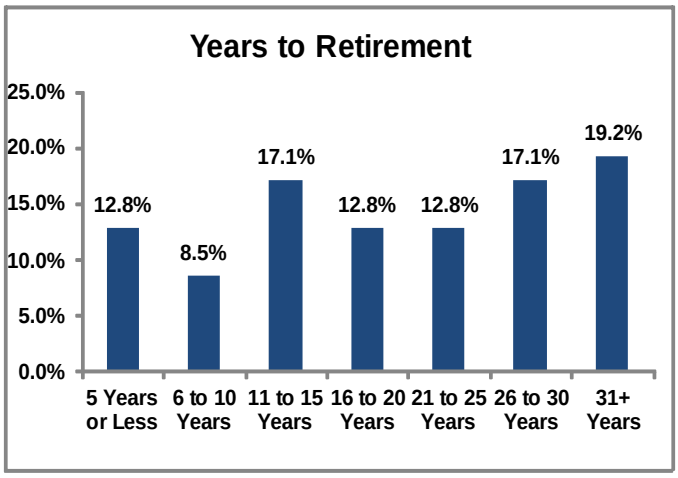


Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Appli-cable
Patient Pay	9.8%	31.1%	34.4%	16.4%	8.2%
Insurance Rejecting Care	9.8%	39.3%	39.3%	4.9%	6.6%
Insurance Delaying and/ or Denying	9.8%	45.9%	27.9%	6.6%	9.8%
Language/ Culture of patients	9.8%	3.3%	57.4%	23.0%	6.6%
Referrals	9.8%	13.1%	31.1%	37.7%	8.2%

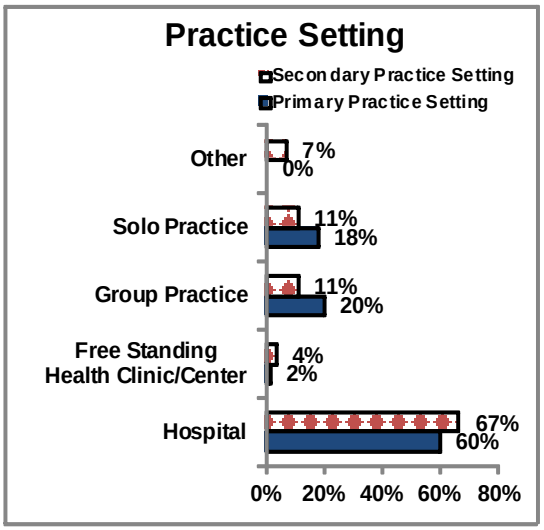
Local Health District	% Neurologists
Bear River	1.7%
Davis	5.0%
Salt Lake	48.3%
Southwest	6.7%
Utah	8.3%

Patient Age Cohort	O/P	I/P
0-19	8.4%	11.8%
20-64	35.0%	19.9%
65-84	30.3%	23.5%
85+	18.4%	7.2%

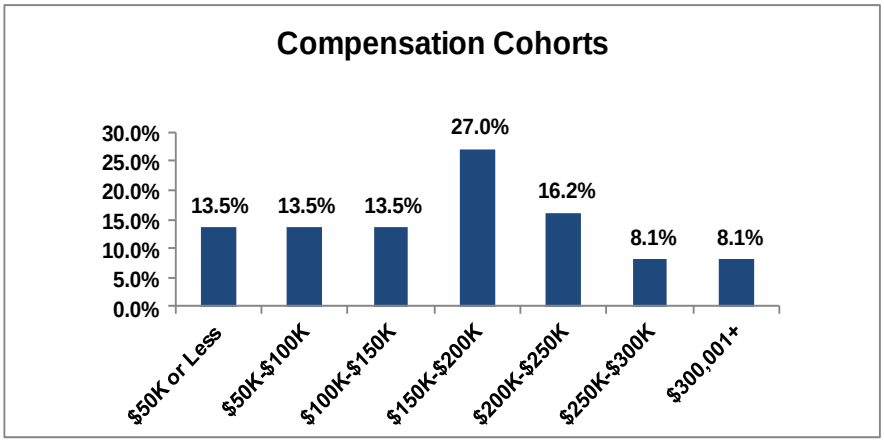




% Patients	Medi-caid	Medi-care	Charity	Unin-sured	Insured	VA
Do Not Accept	11.5%	3.3%	29.5%	19.7%	8.2%	39.3%
<25% of patients	49.2%	21.3%	37.7%	47.5%	11.5%	27.9%
25-50% of patients	6.6%	37.7%	1.6%	0.0%	34.4%	0.0%
50-75% of patients	1.6%	4.9%	0.0%	0.0%	11.5%	0.0%
75-99% of patients	0.0%	1.6%	0.0%	1.6%	3.3%	1.6%
100% of patients	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%



No. of Utah Factors	Utah Upbringing	Utah Medical School	Utah Residency	Number of Physicians	Percent in Utah Practice
0	No	No	No	37	37.0%
1	Yes	No	No	NR	NR
	No	Yes	No	0	0.0%
	No	No	Yes	34	34.0%
2	Yes	Yes	No	0	0.0%
	Yes	No	Yes	6	6.0%
	No	Yes	Yes	NR	NR
3	Yes	Yes	Yes	8	8.0%
Unknown				9	9.0%
Total				99	100%

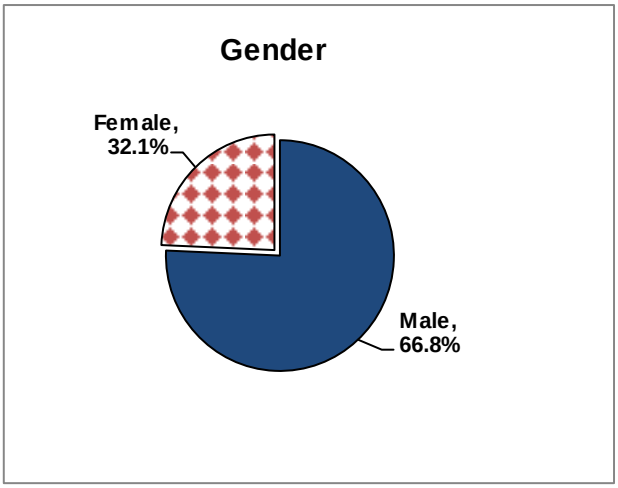


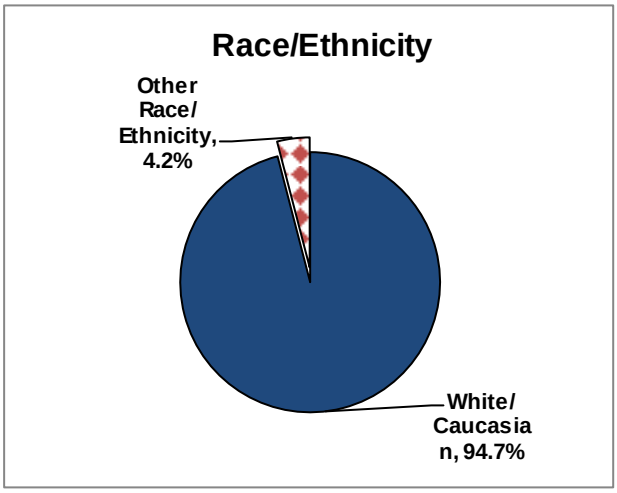
The median annual income for neurologists is $180,000. When adjusted for hours worked, the median annual income is $133,333 per year per FTE (40 hours per week, 52 weeks per hour). A neurologist in Utah works, on average, 54.5 hours per week.

Works Cited

American Medical Association. (2010). *Physician Characteristics and Distribution in the US.*

Butcher, L. (2011, Setember 1). Are There Enough Neurologist to Address US Patient Population- Now and for the Future? *Neurology Today*, 11(17), 1, 11.

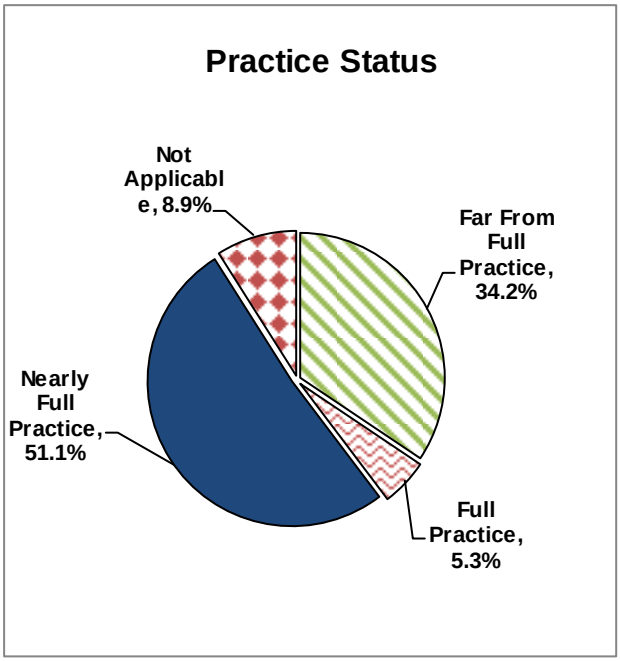


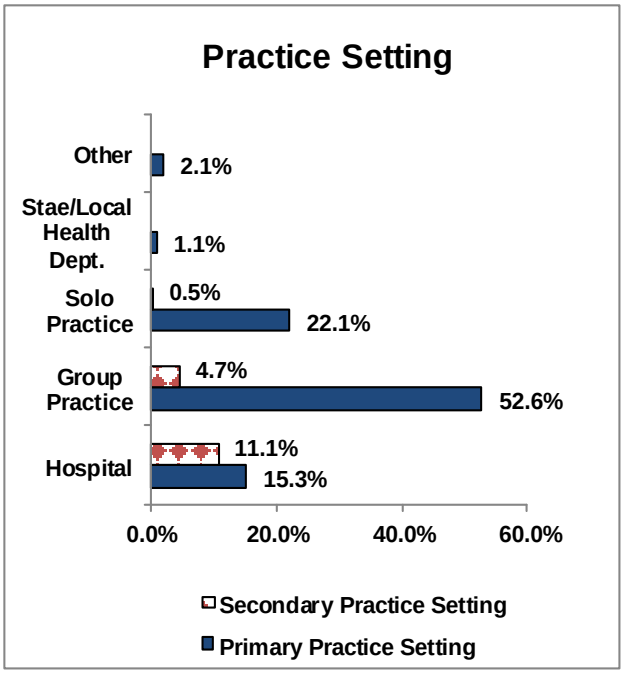


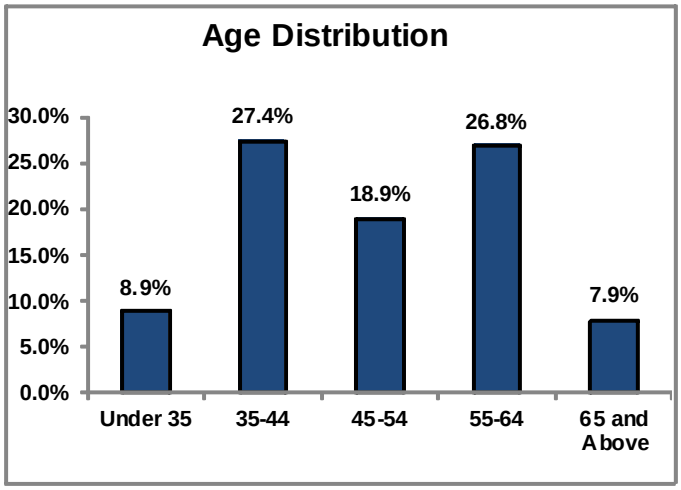
OBSTETRICS AND GYNECOLOGY:

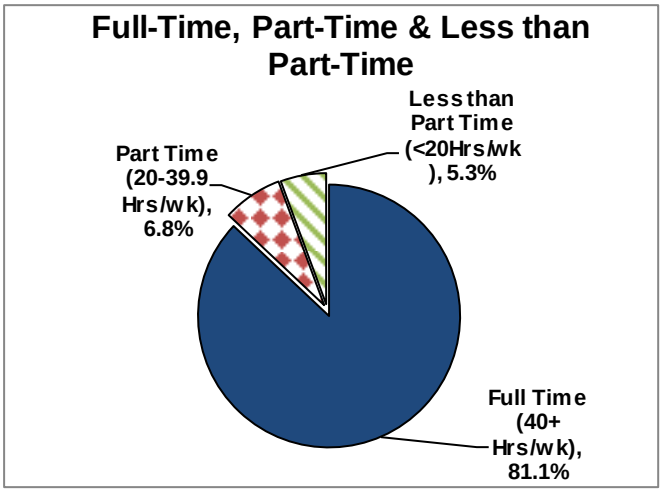
Count: 308 physicians
Standardized FTEs (40 or more hrs/wk= 1 FTE): 290
Total Hr. FTEs (60 hrs/wk= 1.5 FTE): 436
Average Hours per Week: 57
Median Ann. Income adj. for 40 hrs/wk: $166,667/yr
Median Ann. Income reported by DWS: $131,684/yr

1. There are 308 obstetrics and gynecologists in Utah. This places the provider to female 18-64 population at 36.7 or at 2,725 patient population per provider.
2. According to 2008 AMA data, there are 38,500 obstetricians and obstetrician/gynecologists in the U.S. (American Medical Association, 2010, p. 24) This places the provider to female 18-64 population at 40.1 or at 2,494 patient population per provider.
3. The UMEC demand study does not recognize the obstetrics and gynecology workforce as one of the specialties threatened by a shortage.
4. Utah continues to hold its position as the state with the highest birth and fertility rates in the nation. According to the National Vital Statistics Report, Utah had a birth rate of 18.9 and a fertility rate of 85.6 in 2010. The national average was 13.0 and 64.1 respectively. (Center for Disease Control and Prevention, 2010, p. Table 6)
5. The University of Utah graduates six residents per year. Of those that graduate, only about 40% will stay in Utah practice.

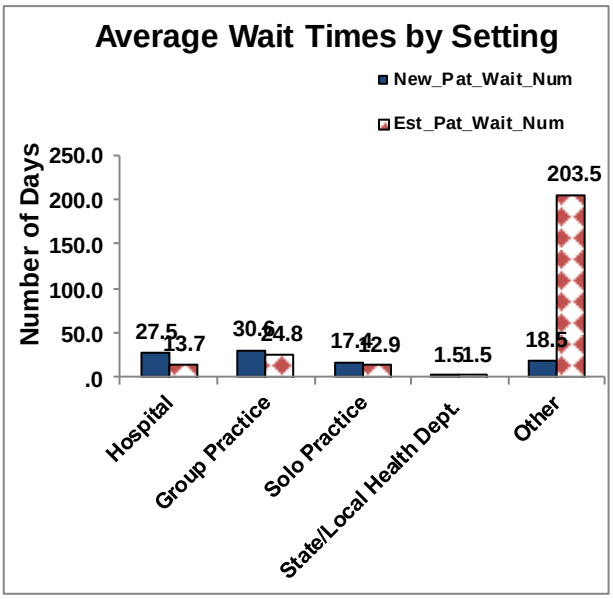


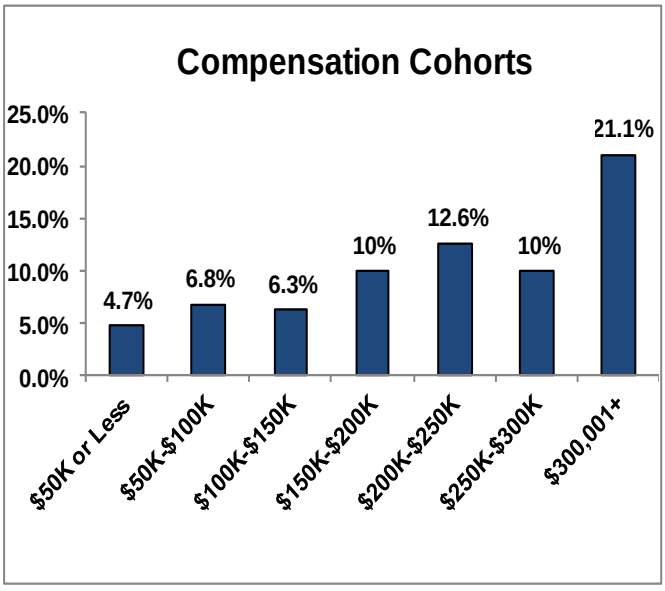


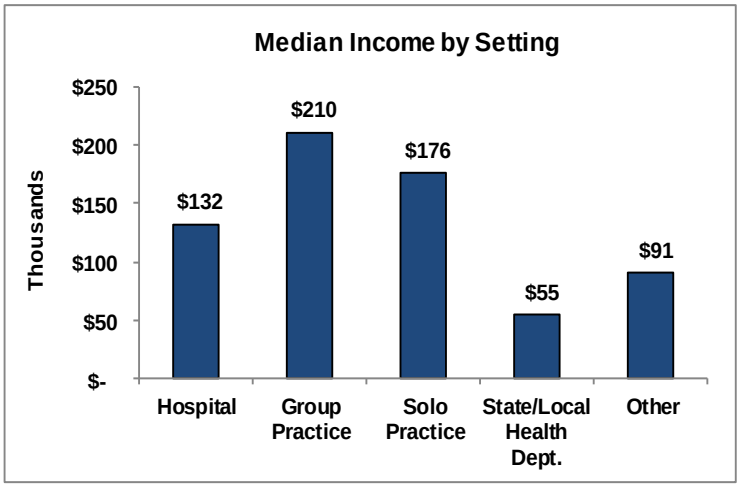




% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	5.8%	21.1%	96.0%	6.0%	7.4%	47.9%
Less than 25% Patients	42.0%	60.0%	50.5%	69.5%	5.3%	36.0%
25-50% of Patients	31.0%	2.6%	1.1%	4.0%	25.3%	0.0%
50-75% of Patients	5.0%	0.0%	0.0%	1.6%	34.2%	0.0%
75-99% of Patients	0.5%	0.0%	0.5%	2.1%	11.6%	0.0%
100% of Patients	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%

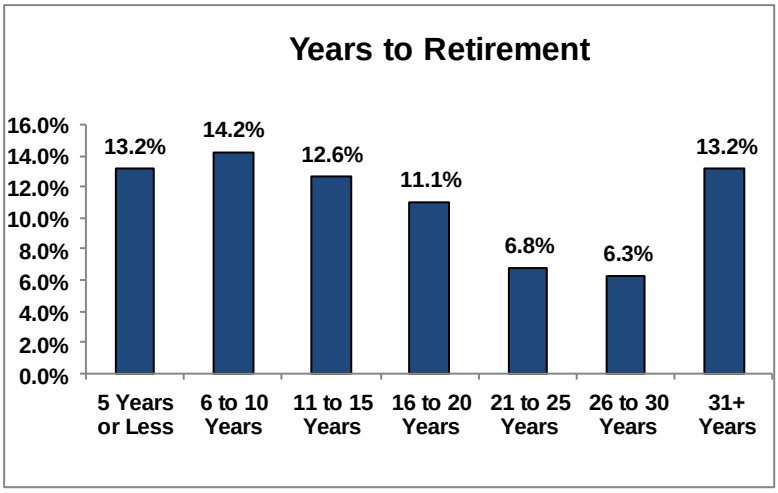






Local Health District	Percentage Physicians
Bear River	6.8%
Davis	8.4%
Salt Lake	40.0%
Southeastern	1.1%
Southwest	6.8%
Summit	2.1%
Tooele	0.5%
Tri-County	1.6%
Utah	14.7%
Weber-Morgan	6.3%

Patient Age Cohort	O/P	I/P
0-19	10.9%	8.9%
20-64	72.8%	62.8%
65-84	10%	5.9%
85+	3.3%	1.6%

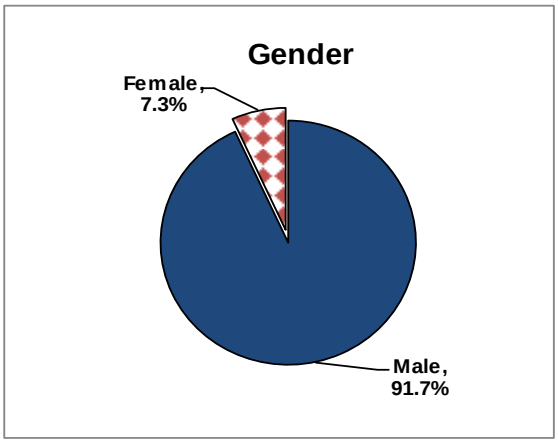


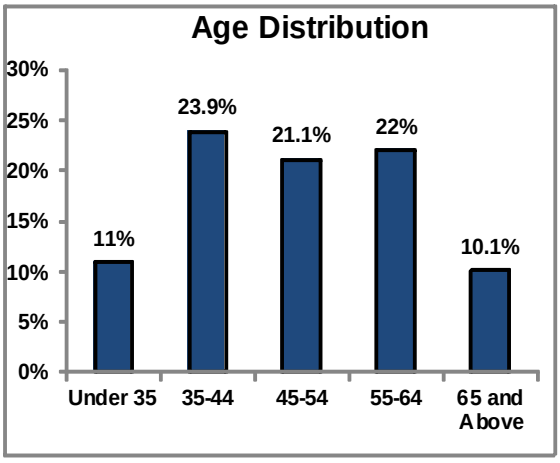
Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	23.1%	30.8%	34.6%	3.8%	7.7%
Insurance Rejecting Care	19.2%	23.1%	46.2%	3.8%	7.7%
Insurance Delaying and/or Denying	19.2%	26.9%	42.3%	3.8%	7.7%
Language/Culture of patients	19.2%	11.5%	46.2%	19.2%	3.8%
Referrals	23.1%	15.4%	38.5%	19.2%	3.8%

Works Cited

American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.

Center for Disease Control and Prevention. (2010). *National Vital Statistics Reports, 2010.* USA: Center for Disease Control and Prevention.

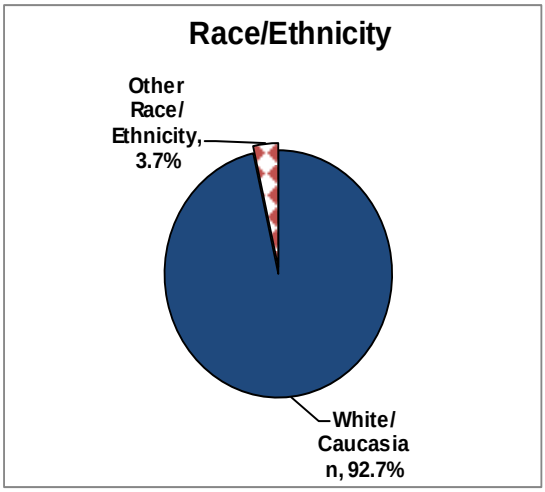


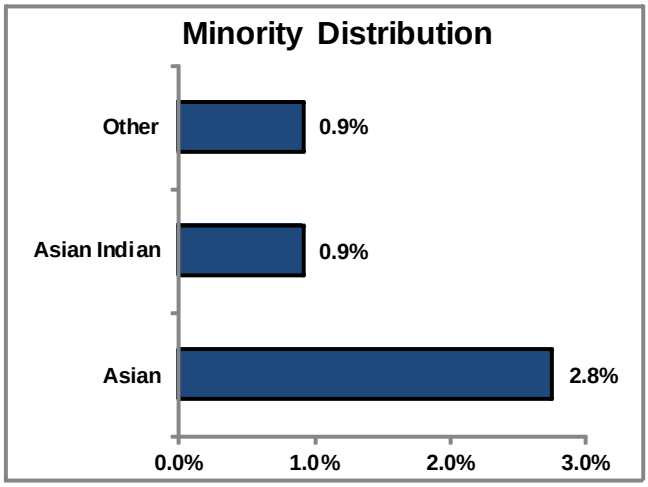


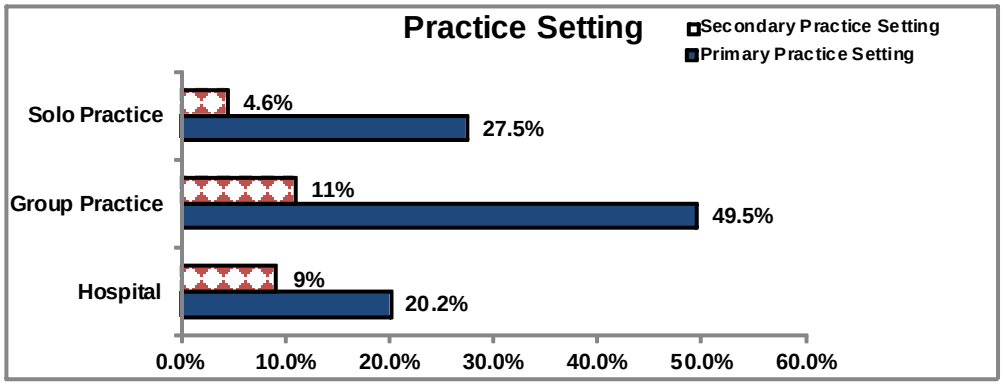
OPHTHALMOLOGISTS:

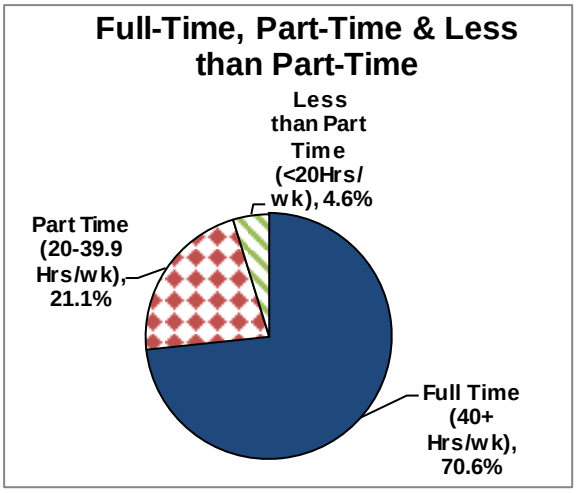
Count: 177 Physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 163
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 198
Average Hours per Week: 45
Median Ann, Income adj. for 40 hrs/wk: $180,000/yr
Median Ann. Income reported by DWS: $143,000/yr

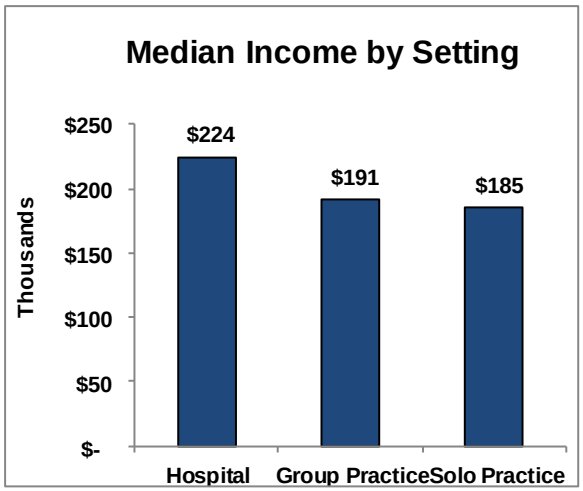
1. There are 177 ophthalmologists in Utah, placing the provider-to-100,000 population ratio at 6.3, or at 15,976 people per provider.
2. 2008 American Medical Association (AMA) data indicates that the U.S. had 18,026 ophthalmologists for a ratio of 5.9 per 100,000 population. (American Medical Association, 2010) This places the provider to 100,000 population ratio at 5.9, or at 16,898 people per provider.
3. Utah currently trains 3 residents per year, of which 33% have remained in Utah practice over the period 1998-2009.
4. Ophthalmology is not considered a specialty facing shortage in Utah.





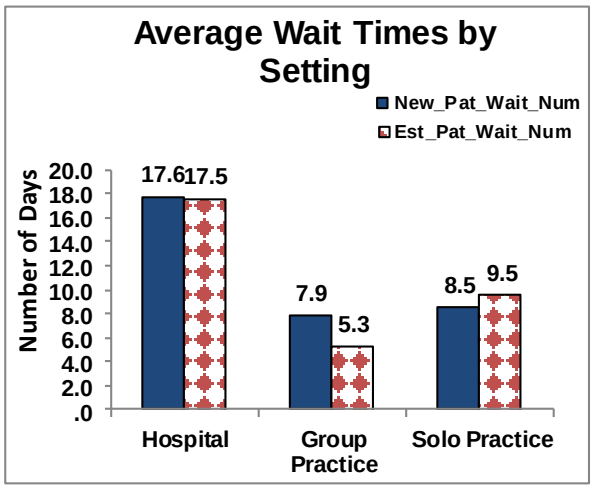


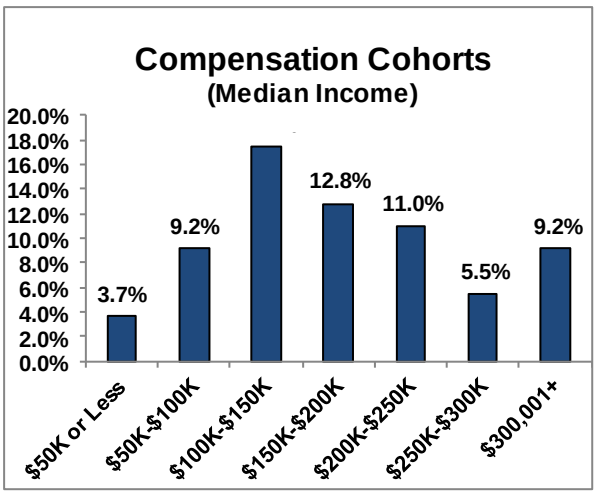


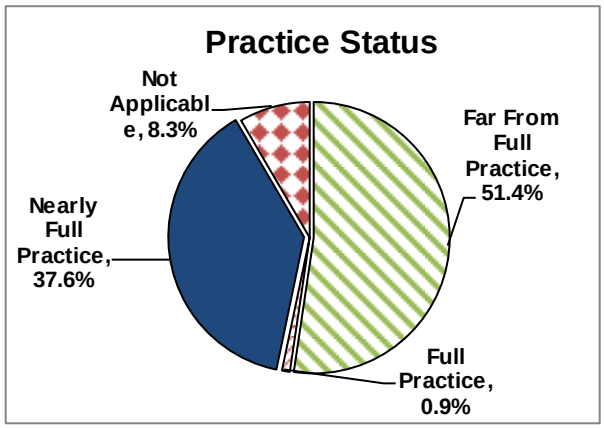


% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	3.7%	3.7%	13.8%	3.7%	4.6%	35.8%
Less than 25% Patients	67.9%	8.3%	64.2%	69.7%	20.2%	42.0%
25-50% of Patients	3.0%	46.8%	0.0%	0.9%	46.8%	0.0%
50-75% of Patients	0.0%	17.4%	0.0%	0.9%	4.6%	0.0%
75-99% of Patients	0.0%	1.8%	0.0%	1.8%	1.8%	0.0%
100% of Patients	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%

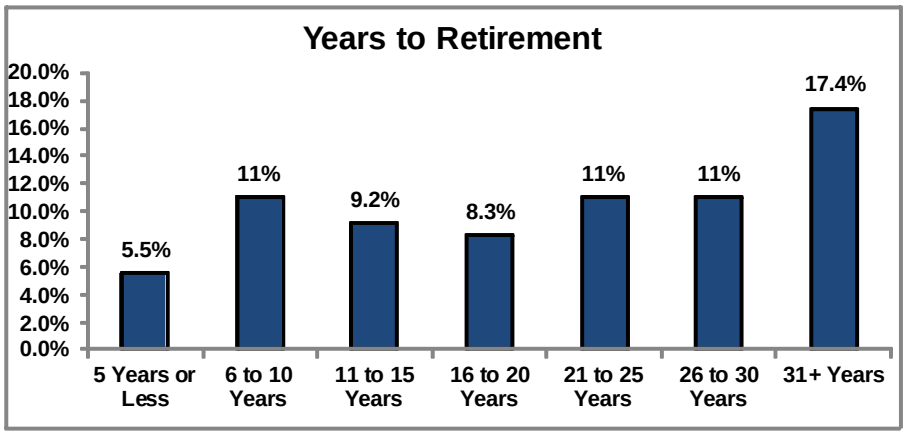
Patient Age Cohort	O/P	I/P
0-19	11.5%	7.5%
20-64	28.7%	7.2%
65-84	40.7%	5.6%
85+	15%	1.8%





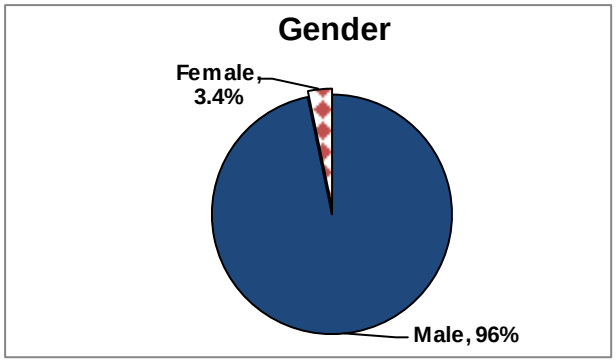


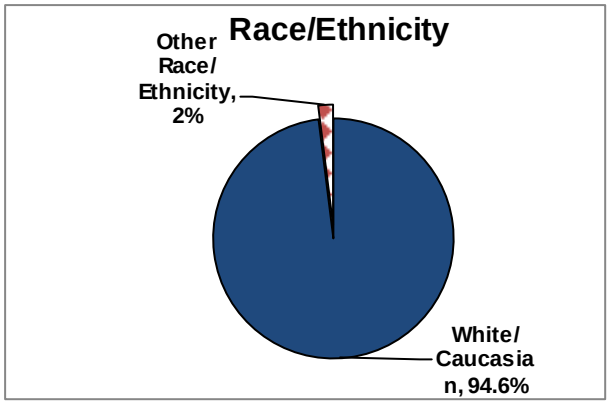
Local Health District	Percentage Physicians
Bear River	8.3%
Davis	6.4%
Salt Lake	38.5%
Southwest	3.7%
Tooele	0.9%
Tri-County	0.9%
Utah	13.8%
Weber-Morgan	7.3%
Out of State	20.2%

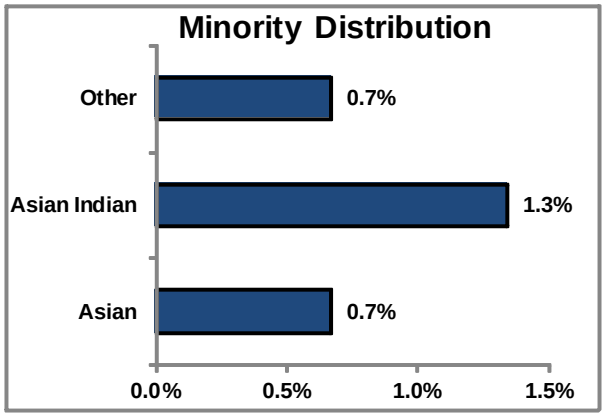


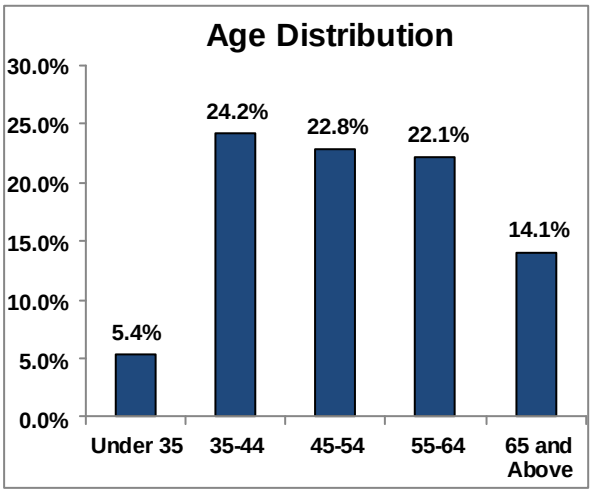
WORKS CITED

American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.









ORTHOPEDIC SURGERY:

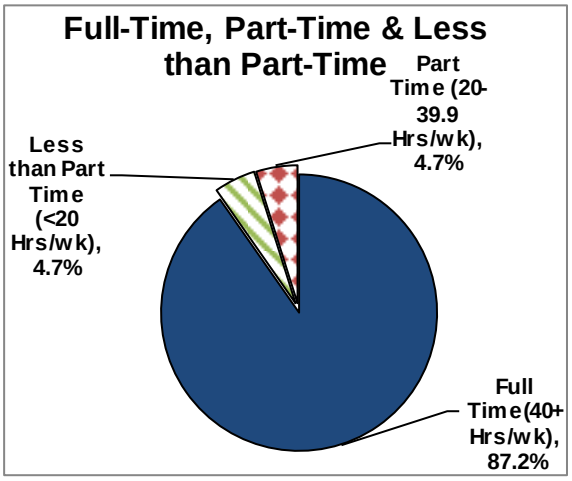
Count: 242 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 228
Total Hr.FTEs (60 hrs/wk=1.5 FTE): 331
Average Hours per Week: 55
Median Ann. Income adj. for 40 hrs/wk: $240,000/yr.
Median Ann. Income reported by DWS: $245,000/yr.

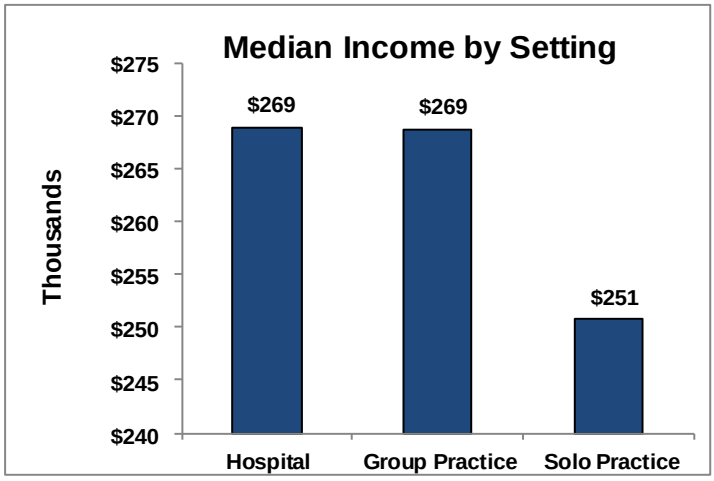
1. Nationally, the AMA reports that there were 21,900 orthopedic surgeons in 2008, placing the provider-to-100,000 population ratio at 7.2. This places the population per provider ratio at 13,909. This is better than the ratio estimated by the Robert Graham Center – that an average orthopedic surgeon could serve 16,130 people.
2. Orthopedics is one of the few specialties with a provider to 100,000 population ratio greater than the national average. There are 242 orthopedic surgeons in Utah for a ratio of 8.6 providers per 100,000 population. This ratio was 7.2 in 2003 for Utah.
3. In Utah, there are 11,658 people per provider, leaving a good portion of the orthopedic surgeon's capacity unused.
4. The UMEC physician demand model also estimates a surplus of orthopedic surgeons in the state.
5. The American Academy of Orthopedic Surgeons has reported that Utah has one of the highest densities of orthopedics per 10,000 people age 65 or older. (Turkelson, Schamlz, & Zhao, 2010)
6. National studies have varying arguments about the surplus projections for this workforce:
    a. The American Academy of Orthopedic Surgeon and RAND corporations' 1995 workforce study grossly exaggerated the surplus of orthopedic surgeons by neglecting technological advances and the impact of baby boomer generation on this provider population. (Kyle, 2007)
    b. The supply of physicians will increase 24% by 2020; however, the demand for physician services will grow even more because the US population will increase by 18% (50 million), and our aging population will require a disproportionate amount of time and care." In 2005, COGME projected a need of approximately 12,000-15,600 surgeons by 2020. (Stern, 2007)
    c. It is projected that the knee and hip replacements done by each orthopedic surgeon would increase from 52 in 2010 to 91 in 2020 and by 2030 would average 167. (Beaty, 2009)

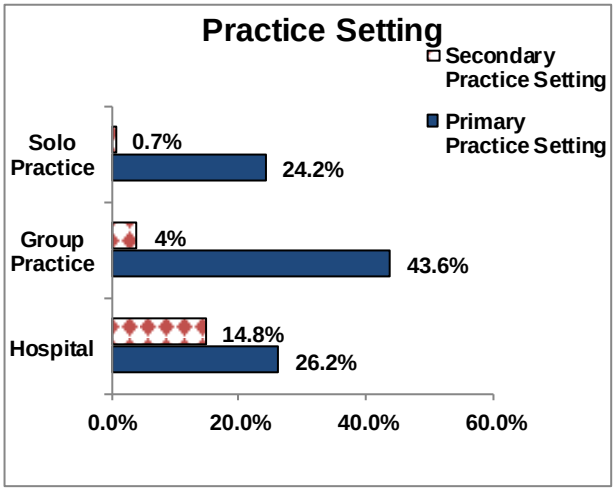
Local Health District	Percentage Physicians
Bear River	8.1%
Davis	8.1%
Salt Lake	49.7%
Southeastern	2.7%
Southwest	6.7%
Summit	0.7%
Tooele	0.7%
Tri-County	2.7%
Utah	10.1%
Weber-Morgan	7.4%

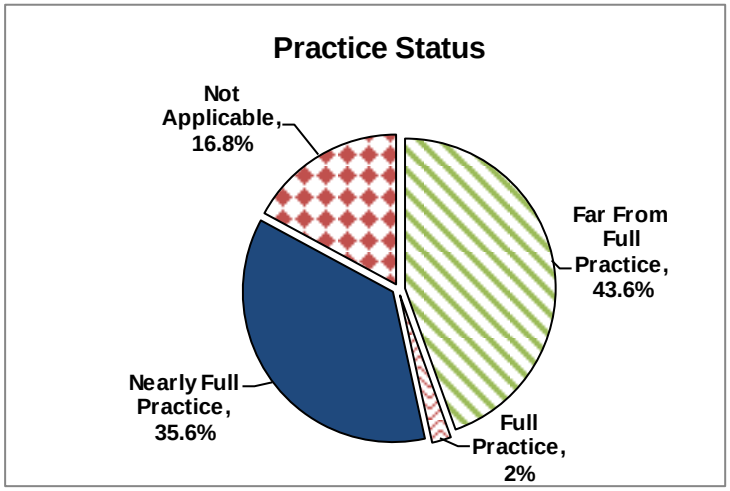
% Patients	Medicaid	Medi-care	Charity	Unin-sured	Insured	VA
Do not accept	15.4%	9.4%	23.5%	15.4%	7.4%	37.9%
Less than 25% Patients	52.3%	19.5%	45.6%	55.7%	6.7%	32.9%
25-50% of Patients	4.7%	38%	0.0%	2.0%	30.9%	2%
50-75% of Patients	0.7%	5.4%	0.0%	0.0%	24.8%	0.0%
75-99% of Patients	0.0%	0.7%	0.7%	0.0%	3.4%	0.0%
100% of Patients	0.0%	0.0%	3.4%	0.0%	0.0%	0.7%

Patient Age Cohort	O/P	I/P
0-19	17.4%	12.3%
20-64	41.8%	21.5%
65-84	28.2%	28.6%
85+	9.8%	4.5%

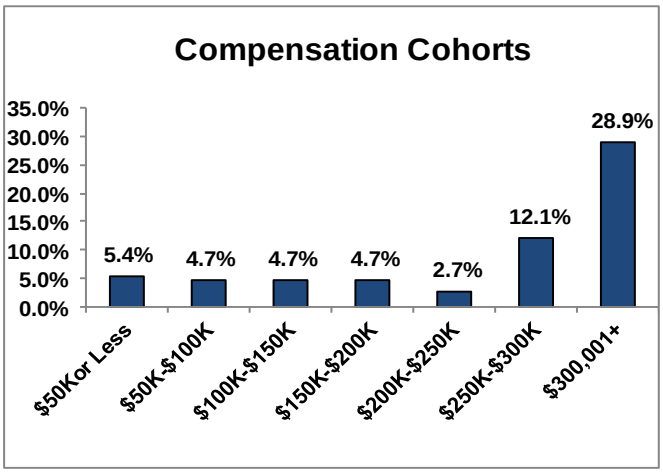


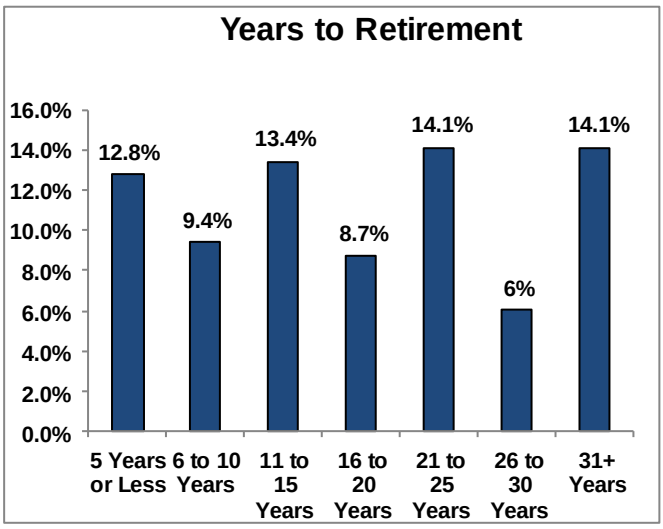


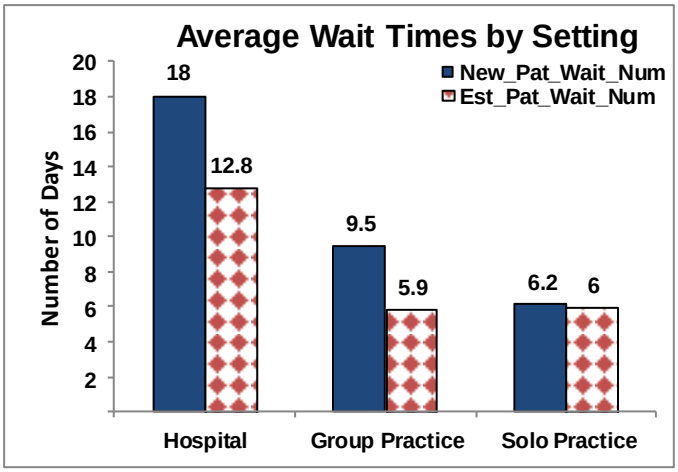




Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Appli-cable
Patient Pay	8.1%	30.2%	40.9%	14.1%	6.7%
Insurance Rejecting Care	7.4%	39.6%	38.9%	6.7%	7.4%
Insurance Delaying and/or Denying	7.4%	47.0%	32.9%	4.7%	8.1%
Language/Culture of patients	7.4%	3.4%	49.7%	30.9%	8.7%
Referrals	8.7%	3.4%	42.3%	39.6%	6%







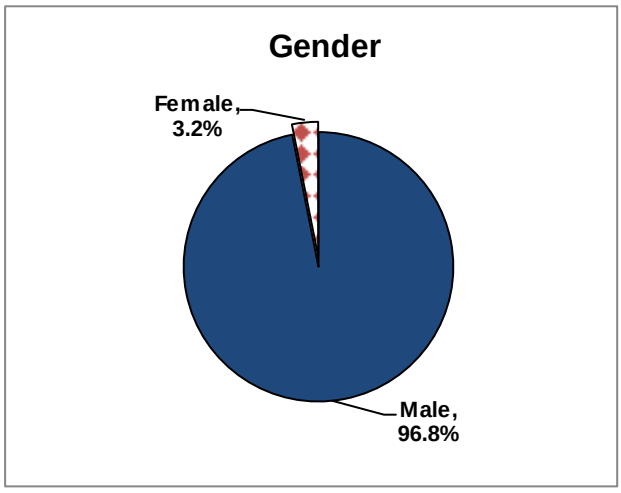
Works Cited

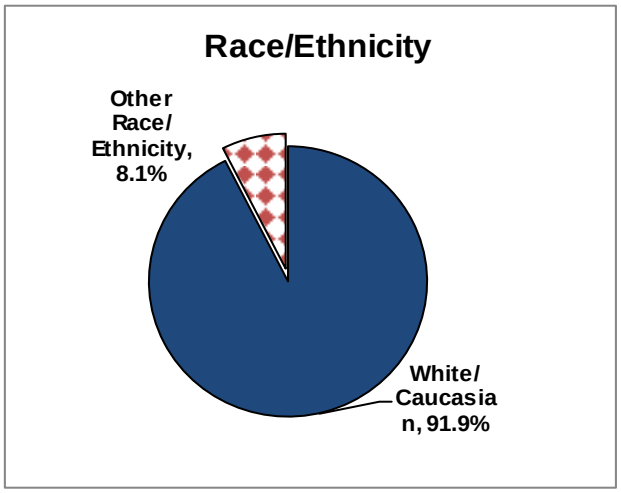
Beaty, J. H. (2009). The Future of Orthopedics. *Journal of Orthopedic Science, 14*(3), 245-247.

Kyle, R. F. (2007). Workforce Analysis. *Journal of the American Academy of Orthopedic Surgeons*, 264-265.

Stern, P. J. (2007). Workforce Analysis in Orthopedic Surgery: How Can We Improve the Accuracy of Our Predictions? *Journal of the American Academy of Orthopedic Surgeons*, 266-267.

Turkelson, C. M., Schamlz, H., & Zhao, G. (2010, April). State-Level changes in AAOS Orthopedic Fellows. *American Academy of Orthopedic Surgeons*, 7.

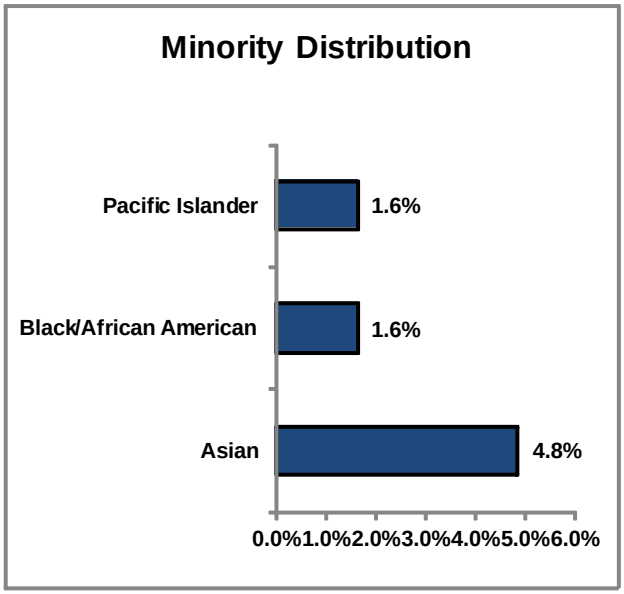


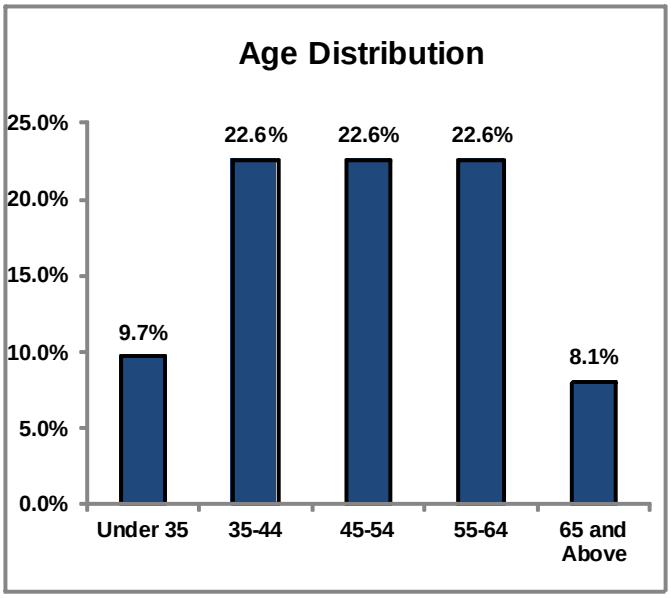


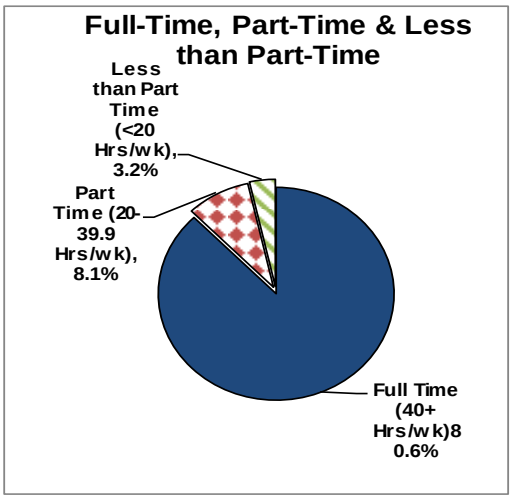
OTOLARYNOGOLOGY:

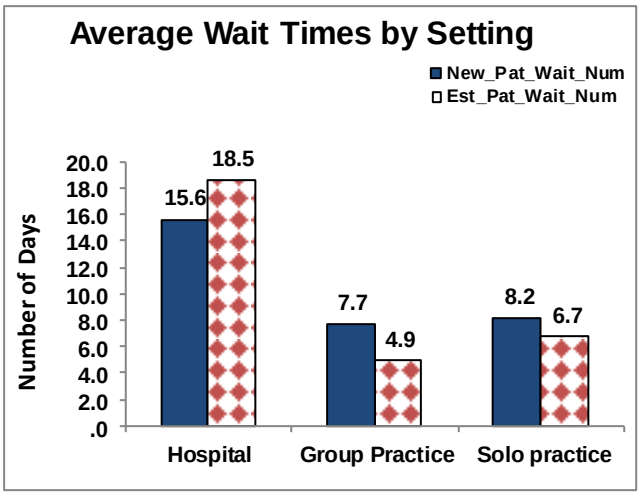
Count: 101 Physicians
Standardized FTEs (40 or more hrs/wk=1FTE): 96
Total Hr. FTEs (60 hrs/wk=1.5 FTE):131
Average Hours per Week: 52
Median Ann. Income adj. for 40 hrs/wk: $180,000/yr
Median Ann. Income reported by DWS: $173,602/yr

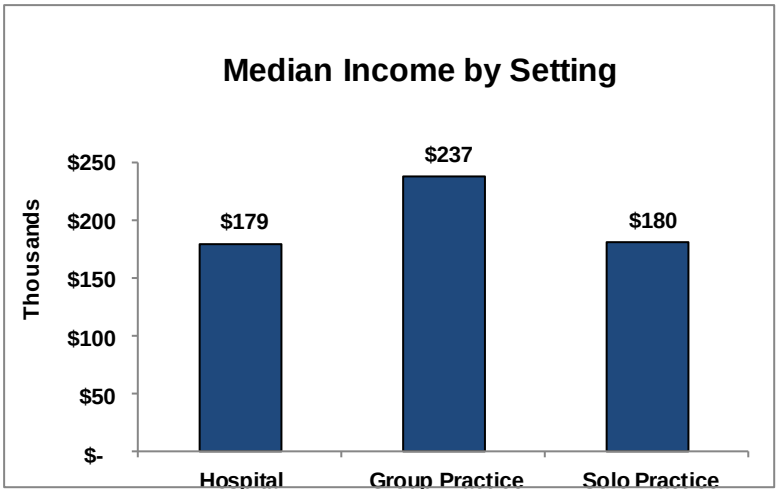
1. There are 101 otolaryngologists in Utah. This translates to 3.6 providers per 100,000 Utahns or 27,829 people per provider in Utah.
2. In 2008, the American Medical Association (AMA) reported that the U.S. had 9,884 otolaryngologists for a ratio of 3.2 per 100,000 population, or 30,818 people per provider. (American Medical Association, 2010, p. 24)
3. The supply of this workforce is considered to be adequate for the state needs based on the UMEC demand study model.
4. Nationally, however, shortage projections are being made for the otolaryngology workforce. “the number of otolaryngologists in 2025 will be approximately 2500 short of projected demand. This shortfall will not be adequately compensated by mid-level providers performing less intensive services and may be increased by lifestyle preferences and changing demographics among medical students and residents. The current geographic maldistribution of otolaryngologists is likely to be exacerbated.” (Kim, Cooper, & Kennedy, 2012)
5. The University of Utah Otolaryngology program is a five year residency program and trains three physicians in each year of its program. It has a retention rate of 18.2% over the period 1998-2010.

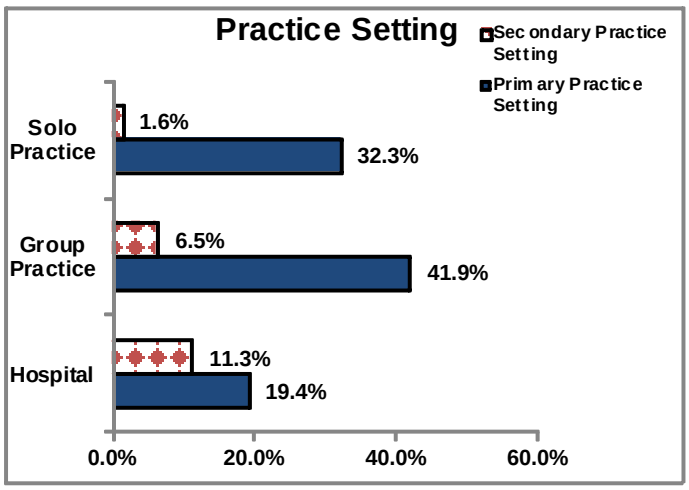


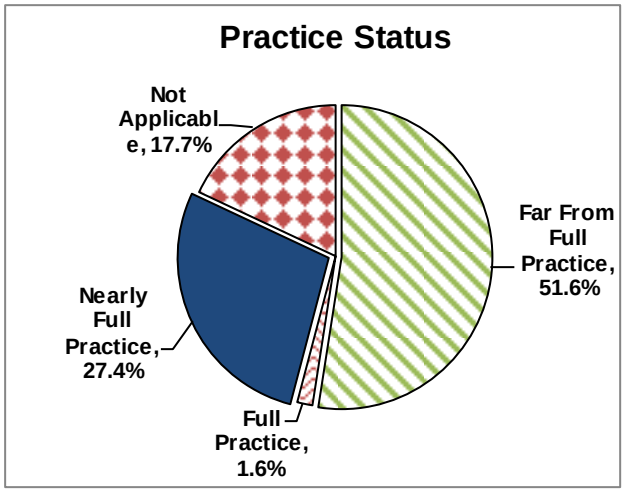



Full-Time, Part-Time & Less than Part-Time
Less than Part Time (<20 Hrs/wk), 3.2%
Part Time (20-39.9 Hrs/wk), 8.1%
Full Time (40+ Hrs/wk)8 0.6%

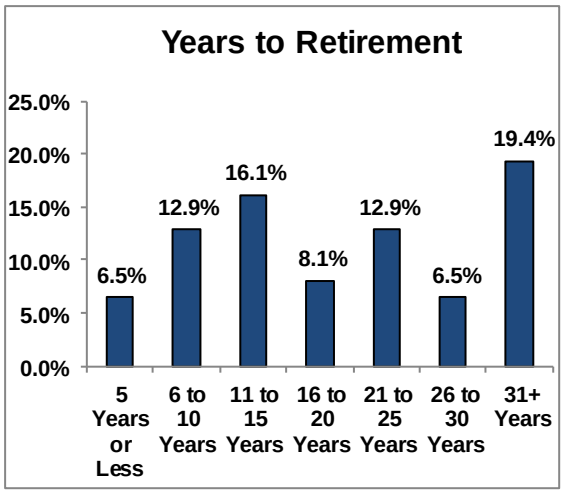

Average Wait Times by Setting
New_Pat_Wait_Num
Est_Pat_Wait_Num
Number of Days
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
.0
15.6
18.5
7.7
4.9
8.2
6.7
Hospital
Group Practice
Solo practice


Median Income by Setting
Thousands
$250
$200
$150
$100
$50
$-
$179
$237
$180
Hospital
Group Practice
Solo Practice

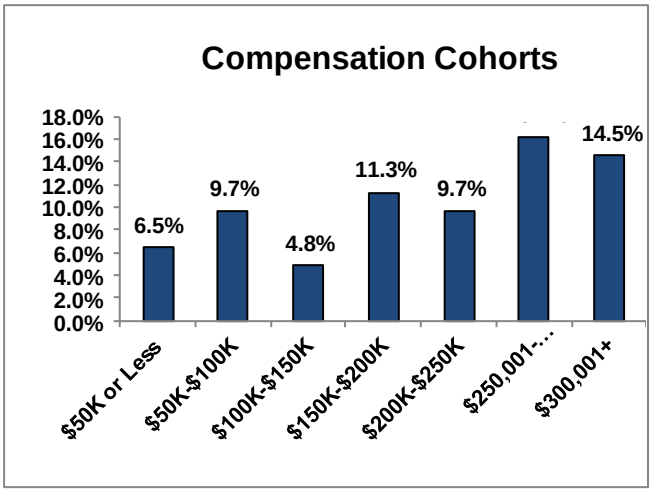

Practice Setting
Secondary Practice Setting
Primary Practice Setting
Solo Practice
1.6%
32.3%
Group Practice
6.5%
41.9%
Hospital
11.3%
19.4%
0.0%
20.0%
40.0%
60.0%


Practice Status
Not Applicable, 17.7%
Far From Full Practice, 51.6%
Nearly Full Practice, 27.4%
Full Practice, 1.6%

Local Health District	Percentage Physicians
Bear River	6.5%
Davis	11.3%
Salt Lake	30.6%
Southwest	8.1%
Tooele	1.6%
Tri-County	1.6%
Utah	12.9%
Weber-Morgan	9.7%



% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	4.8%	4.8%	11.3%	8.1%	1.6%	22.6%
Less than 25% Patients	66.1%	50.0%	66.1%	69.4%	3.2%	53.2%
25-50% of Patients	6.5%	19.4%	0.0%	0.0%	40.3%	0.0%
50-75% of Patients	0.0%	3.2%	0.0%	0.0%	32.3%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
100% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%

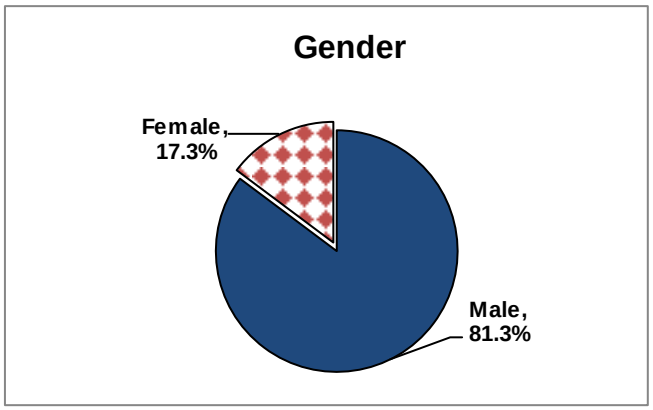


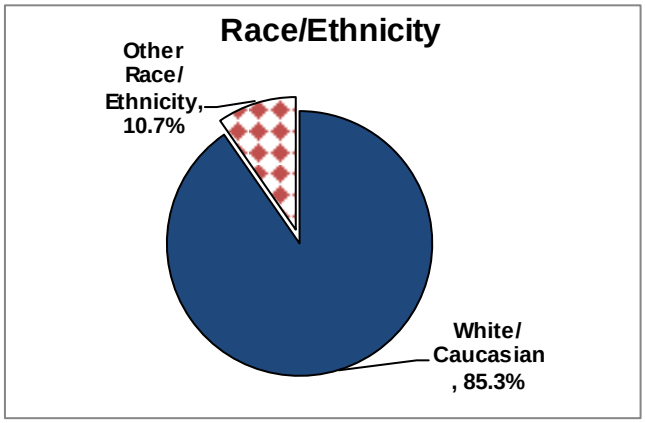
Patient Age Cohort	O/P	I/P
0-19	24%	20.7%
20-64	33%	20.3%
65-84	21.6%	14.2%
85+	17.1%	3.2%

Works Cited

American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.

Kim, J., Cooper, R., & Kennedy, D. (2012, February). Physician Work Force Issues An Analysis for Future Specialty Planning. *Otolaryngology-Head and Neck Surgery, 146*(2), 196-202.

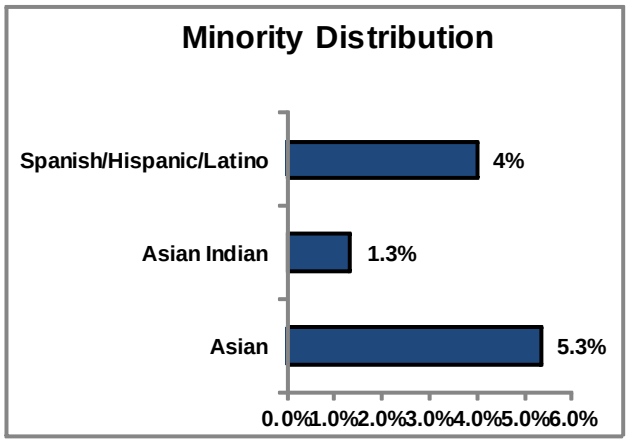


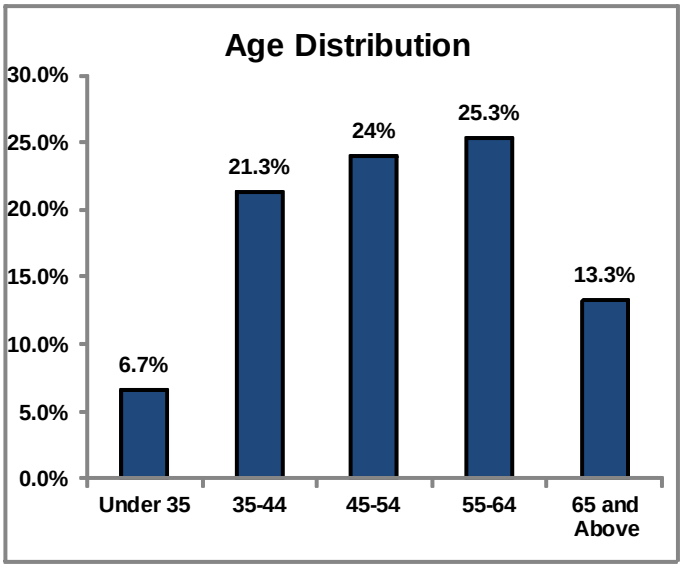


PATHOLOGY:

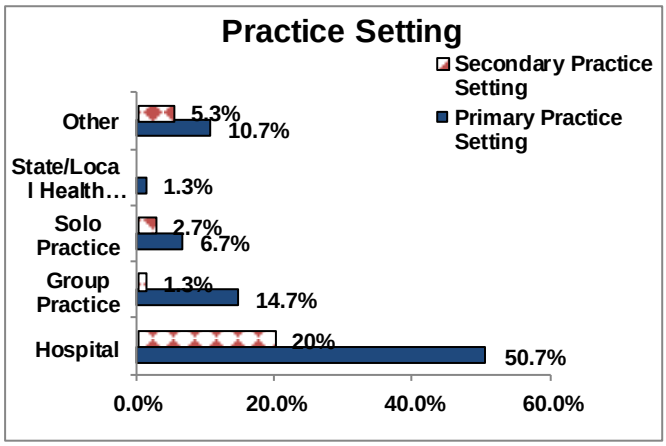
Count: 122 physicians
Standardized FTEs (40 or more hrs/wk= 1 FTE): 115
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 154
Average Hours per Week: 50
Median Ann. Income adj. for 40 hrs/wk: $160,000/yr
Median Ann. Income reported by DWS: $172,004/yr

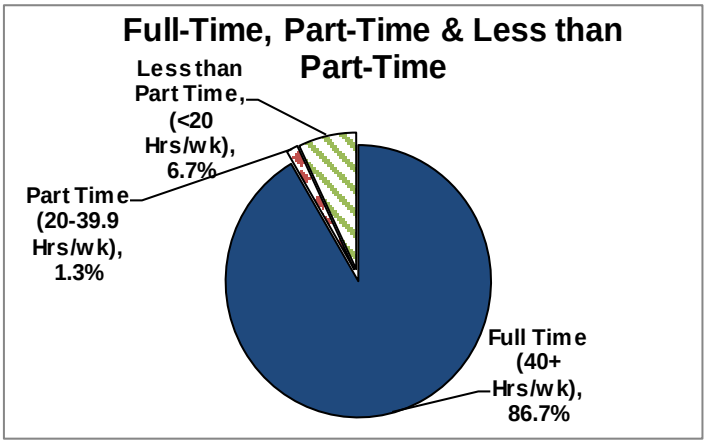
1. In 2008, the AMA reported that the U.S. had 14,363 pathologists for a ratio of 4.7 providers per 100,000 population or 21,208 people per pathologist in the nation. (American Medical Association, 2010)
2. Utah has 122 pathologists, with a provider-to-100,000 population ratio of 4.3, or 23,006 people per pathologist.
3. Utah demand study indicates pathology as one of the workforces that might see a surplus in the state.
4. The state currently trains five pathologists per year with a total retention rate of 29% since 1998.
5. The self-reported median annual compensation of a general pathologist in Utah is $200,000. Compensation adjusted for hours indicates that the median wage of a general pathologist working an average of 40 hours per week is about $160,000 per year (median) in Utah. According to the Dept. Workforce Services, the median income of a general pathologist in Utah is $172,004.





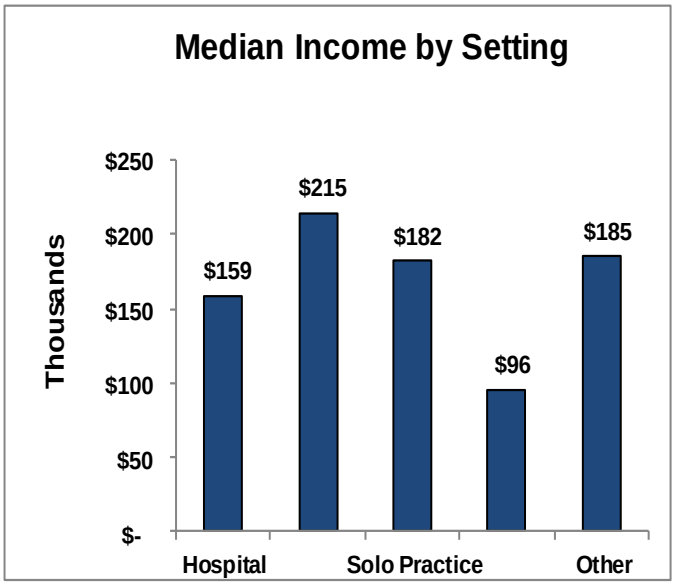
Patient Age Cohort	O/P	I/P
0-19	8.9%	8.5%
20-64	30.7%	32.2%
65-84	26.3%	26.1%
85+	4.1%	3.3%

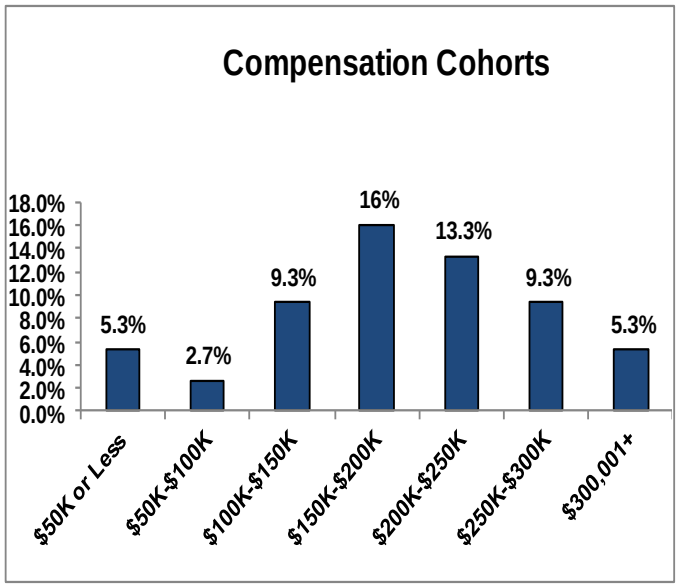


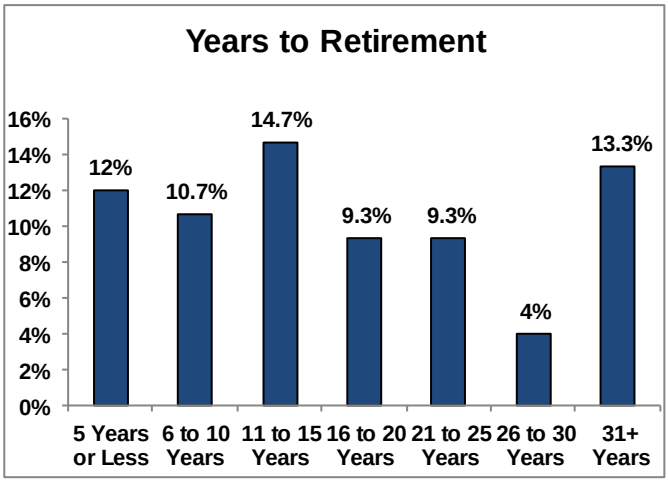


Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	30.7%	5.3%	24.0%	12.0%	28.0%
Insurance Rejecting Care	30.7%	9.3%	17.3%	10.7%	32.0%
Insurance Delaying and/ or Denying	30.7%	16.0%	18.7%	8.0%	26.7%
Language/ Culture of patients	29.3%	1.3%	8.0%	26.7%	34.7%
Referrals	29.3%	1.3%	8.0%	16.0%	45.3%

Local Health District	Percentage Physicians
Bear River	2.7%
Davis	5.3%
Salt Lake	42.7%
Southeastern	1.3%
Southwest	4%
Tri-County	1.3%
Utah	13.3%
Weber-Morgan	4%



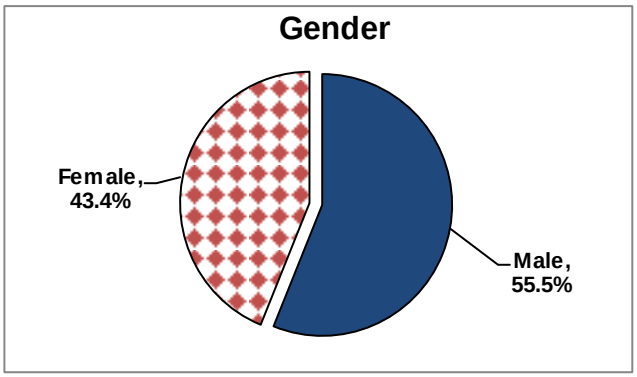


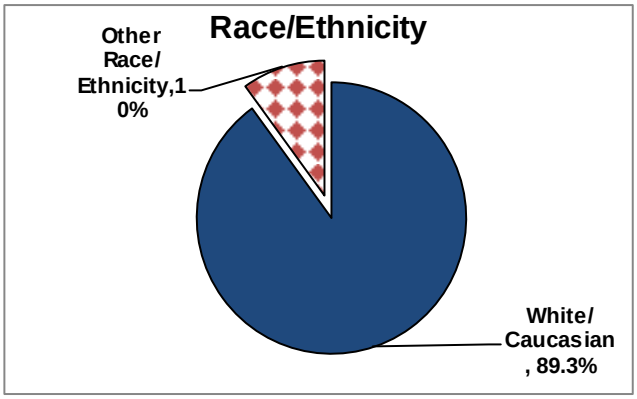


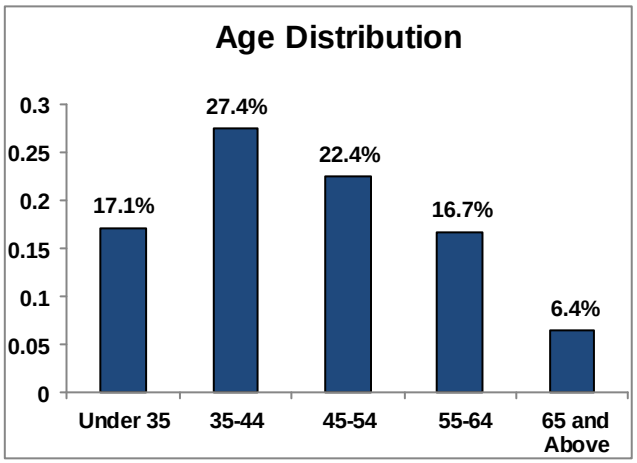
% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	4.0%	6.7%	17.3%	6.7%	5.3%	18.7%
Less than 25% Patients	25.3%	6.7%	16.0%	25.3%	4.0%	12.0%
25-50% of Patients	4.0%	20.0%	0.0%	1.3%	14.7%	0.0%
50-75% of Patients	0.0%	0.0%	0.0%	0.0%	9.3%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
100% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%

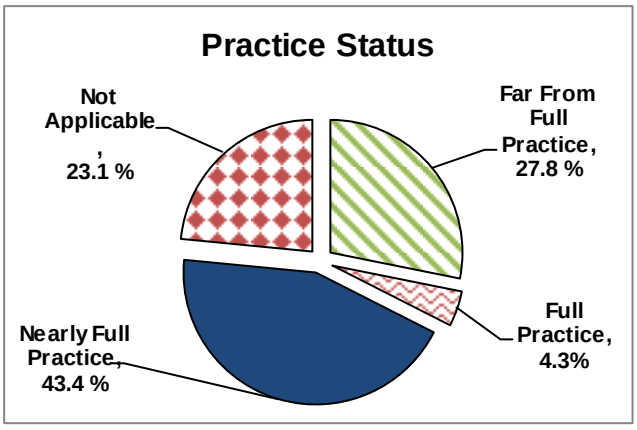
Works Cited

American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.





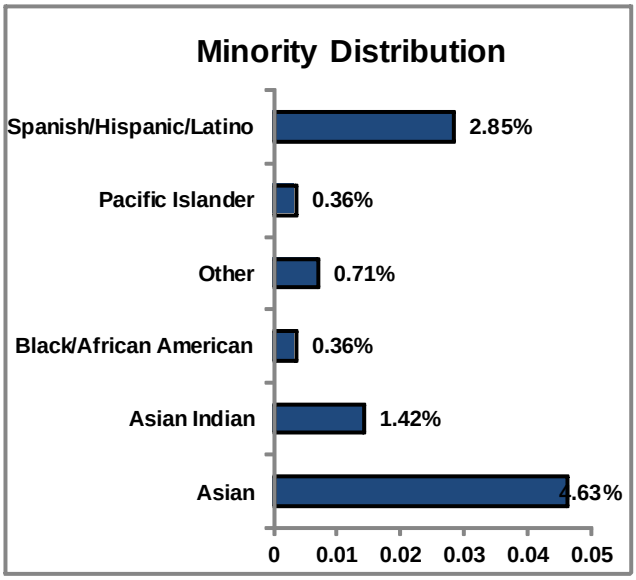


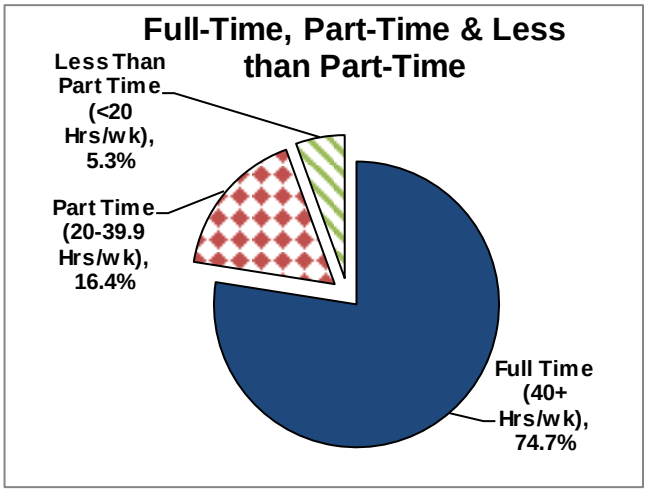


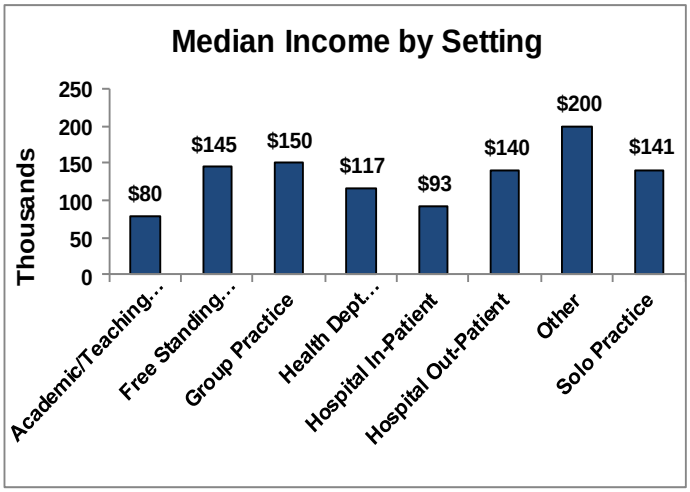
PEDIATRICS:

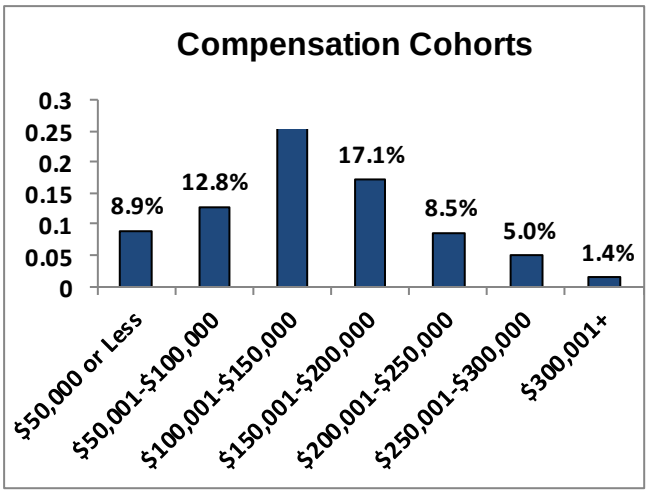
Count:456 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 418
Total Hrs. FTEs (60 hrs/wk =1.5 FTE): 536
Average Hours per Week: 47
Median Ann. Income adj. for 40 hrs/wk: $133,333/yr
Median Ann. Income reported by DWS: $64,933/yr

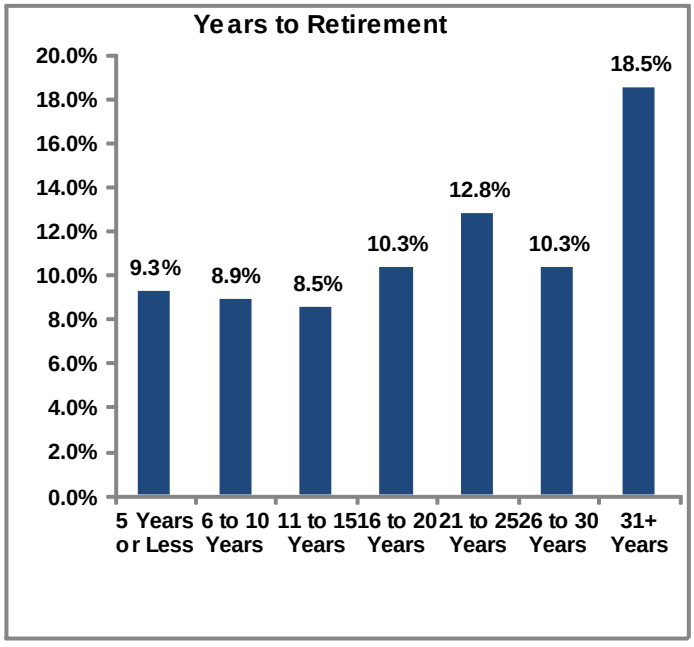
1. Utah continues to hold its position as the state with the highest birth and fertility rates in the nation. According to the National Vital Statistics Report, Utah had a birth rate of 18.9 and a fertility rate of 85.6 in 2010. The national average was 13.0 and 64.1 respectively. (Center for Disease Control and Prevention, 2010, p. Table 6)
2. Utah also continues to have the youngest population in the nation: median age of 28.8 compared to the national median of 36.8 in 2009. (Census Bureau, 2010)
3. The UMEC 2010 survey data indicates that Utah has 456 pediatricians, translating into 1,891 Utahns under age 18 for every pediatrician in the state. According to AMA, Utah had 585 pediatricians in 2008 or 1,440 Utahns under age 18 for every provider. (American Medical Association, 2010, p. 142)
4. Nationally, the AMA reports 57,917 pediatricians in 2008. (American Medical Association, 2010, p. 24) This translates to a provider-to-100,000 population ratio of 19.
5. UMEC survey data indicates that on average, there is an eight day wait time for a new patient to see a pediatrician; and a five day average wait time for an established patient.

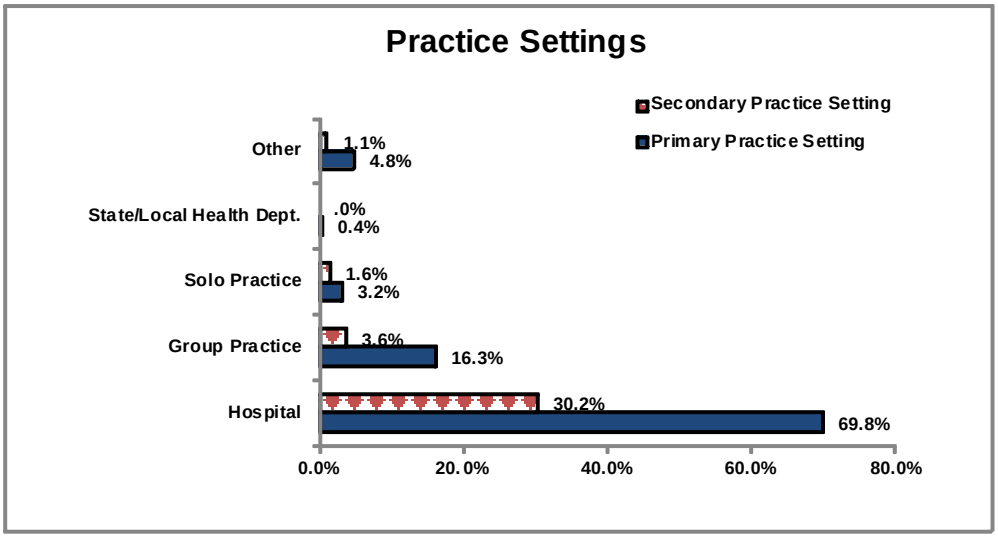



Full-Time, Part-Time & Less than Part-Time
Less Than Part Time (<20 Hrs/wk), 5.3%
Part Time (20-39.9 Hrs/wk), 16.4%
Full Time (40+ Hrs/wk), 74.7%


Median Income by Setting
Thousands
250
200
150
100
50
0
$80
$145
$150
$117
$93
$140
$200
$141
Academic/Teaching...
Free Standing...
Group Practice
Health Dept...
Hospital In-Patient
Hospital Out-Patient
Other
Solo Practice


Compensation Cohorts
0.3
0.25
0.2
0.15
0.1
0.05
0
8.9%
12.8%
17.1%
8.5%
5.0%
1.4%
$50,000 or Less
$50,001-$100,000
$100,001-$150,000
$150,001-$200,000
$200,001-$250,000
$250,001-$300,000
$300,001+

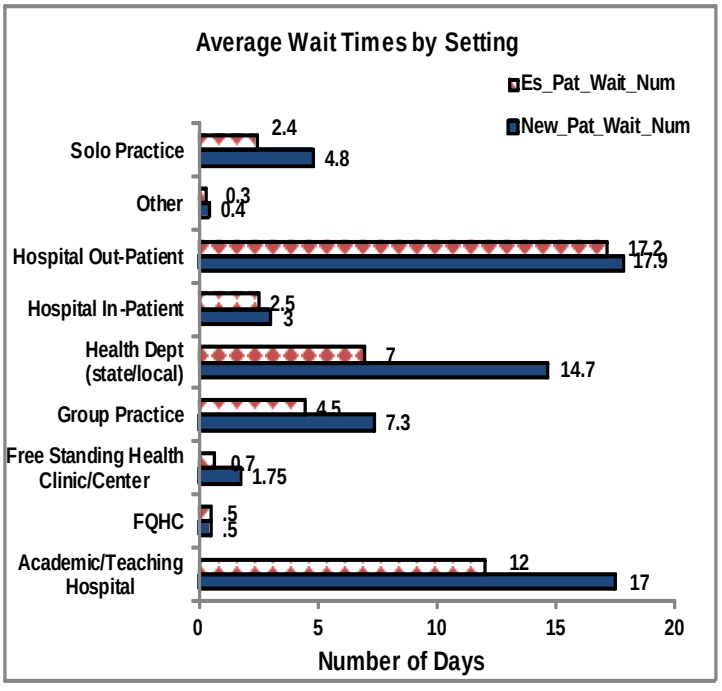

Years to Retirement
20.0%
18.0%
16.0%
14.0%
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
9.3%
8.9%
8.5%
10.3%
12.8%
10.3%
18.5%
5 Years or Less
6 to 10 Years
11 to 15 Years
16 to 20 Years
21 to 25 Years
26 to 30 Years
31+ Years


Practice Settings
Secondary Practice Setting
Primary Practice Setting
Other
1.1%
4.8%
State/Local Health Dept.
.0%
0.4%
Solo Practice
1.6%
3.2%
Group Practice
3.6%
16.3%
Hospital
30.2%
69.8%
0.0%
20.0%
40.0%
60.0%
80.0%

Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	7.8%	24.6%	46.3%	13.9%	7.5%
Insurance Rejecting Care	7.1%	26.7%	50.2%	9.6%	6.4%
Insurance Delaying and/or Denying	8.5%	27%	50.9%	6.4%	7.1%
Language/ Culture of patients	6.4%	6.4%	61.9%	22.4%	2.8%
Referrals	7.1%	8.9%	44.5%	34.5%	5%

Patient Age Cohort	O/P	I/P
0-19	82.6%	75.0%
20-64	2.8%	1.3%
65-84	0.4%	1.0%
85+	3.8%	0.5%

% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	5.3%	69.4%	45.2%	10.0%	9.3%	43.0%
Less than 25% Patients	34.5%	3.6%	28.8%	59.1%	4.3%	27.1%
25-50% of Patients	27.4%	0.4%	0.4%	4.3%	21.4%	0.0%
50-75% of Patients	4.3%	0.7%	N/A	0.0%	26.0%	0.7%
75-99% of Patients	2.8%	N/A	N/A	1.1%	13.2%	0.3%
100% of Patient	N/A	0.4%	N/A	0.3%	0.4%	3.4%

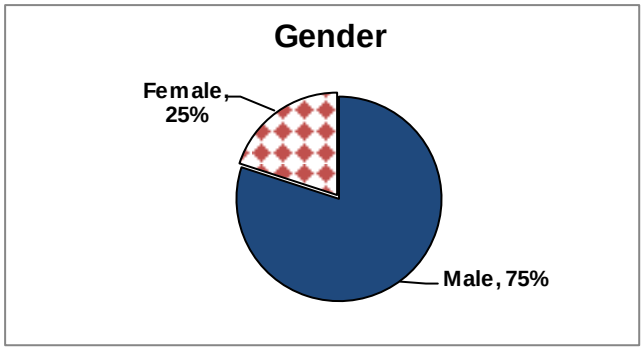


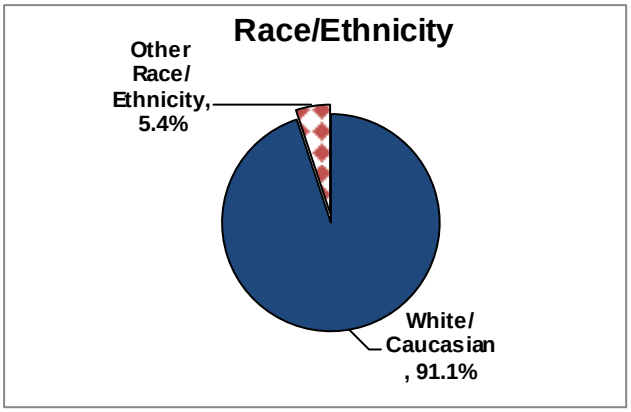
Works Cited

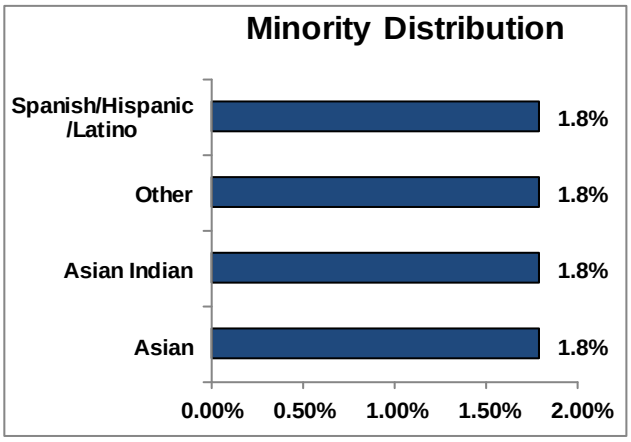
American Medical Association (AMA). (2010). *Physician Characteristics and Distribution in the US 2010 Edition.* American Medical Association.

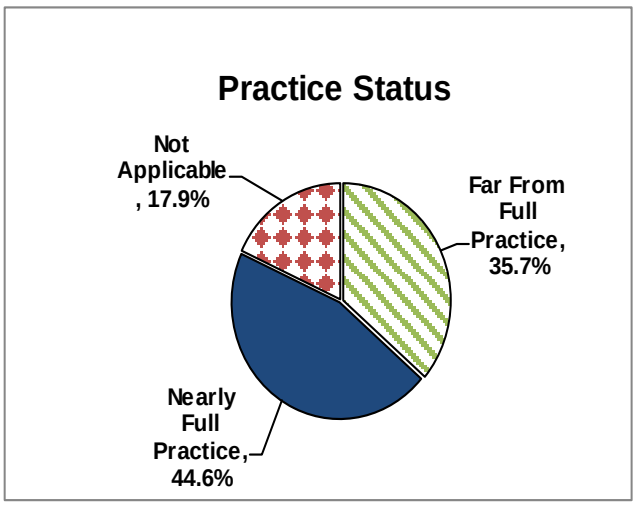
Census Bureau. (2010, June 10). *USA Today 2010 Census*. Retrieved November 2011, from USA Today 2010 Census: http://www.usatoday.com/news/nation/census/median-age-by-state.htm

Center for Disease Control and Prevention. (2010). *National Vital Statistics Reports, 2010.* USA: Center for Disease Control and Prevention.





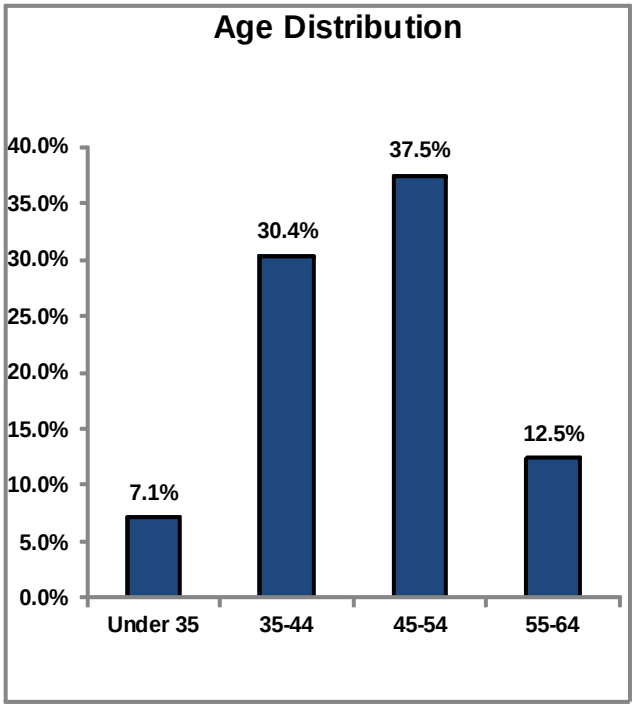


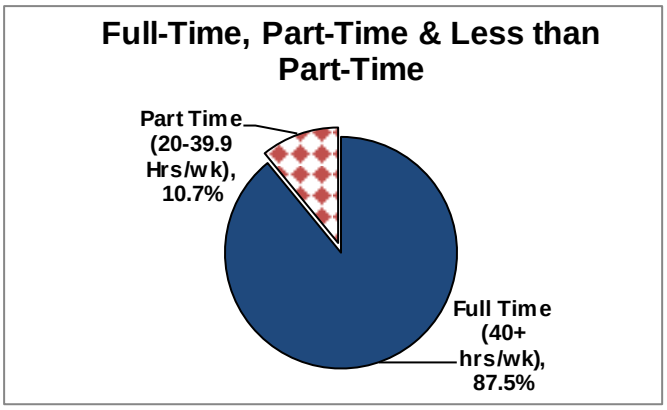


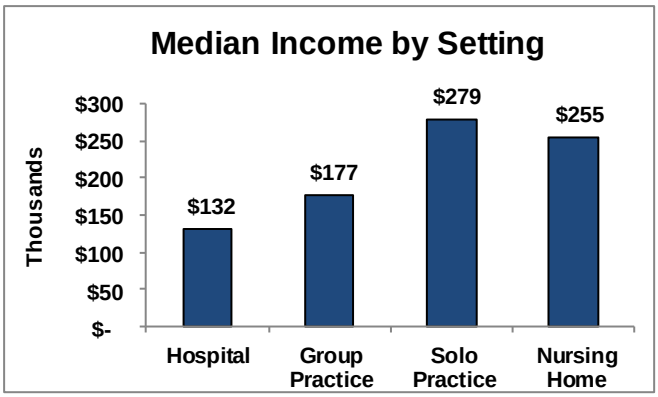
PHYSICAL MEDICINE & REHABILITATION:

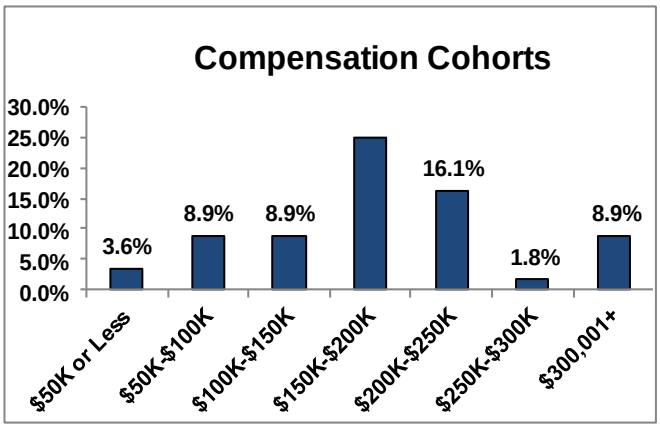
Count: 91 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 88
Total Hr. FTEs (60 hrs=1.5 FTE): 107
Average Hours per Week: 47
Median Ann. Income adj. for 40 hrs/wk: $153,846/yr
Median Ann. Income reported by DWS: $94,970/yr

1. The AMA indicated that there were 7,839 physiatrists or physical medicine & rehabilitation (PMR) physicians in the U.S. in 2008, a ratio of 2.6 providers per 100,000 population. Alternately, this translates to 38,858 people per PMR provider the nation. (American Medical Association, 2010)
2. Utah currently has 91 physiatrists, or 3.2 providers per 100,000 population. PMR is one of the few specialties in which Utah has a higher ratio than the nation. There are 30,811 Utahans per PMR provider in the State.
3. "On the basis of current trends, demand for PT services will outpace the supply of PTs within the United States. Shortages are expected to increase for all 50 states through 2030. By 2030, the number of states receiving below-average grades for their PT shortages will increase from 12 to 48. States in the Northeast are projected to have the smallest shortages, whereas states in the south and west are projected to have the largest shortages." (Zimbelman, Juraschek, Zhang, & Lin, 2010)
4. The UMEC demand study however, suggests that there is an adequate physiatrist workforce in the State.



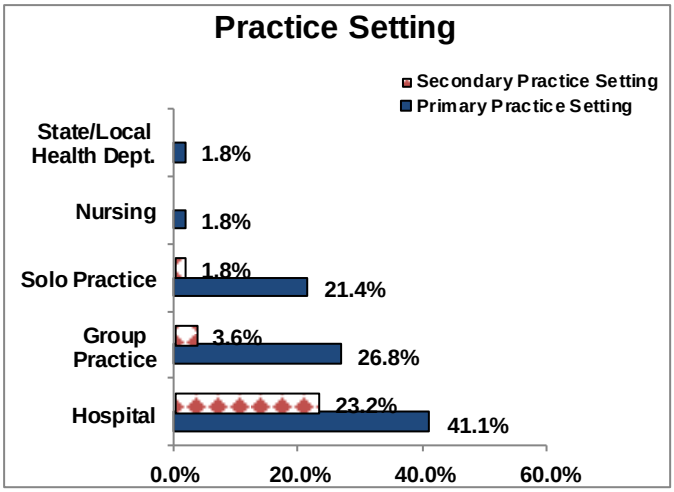




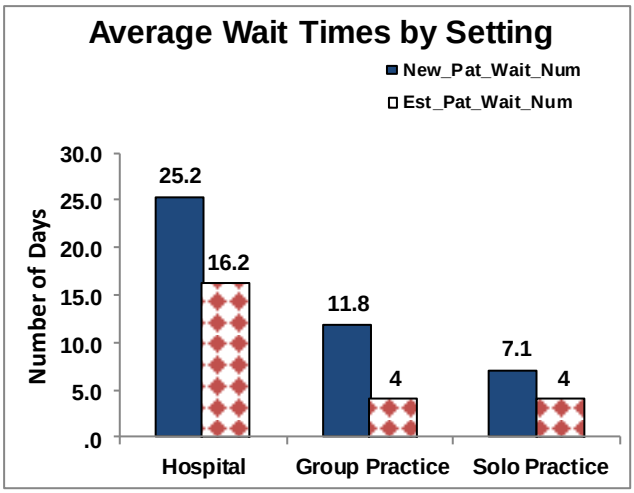


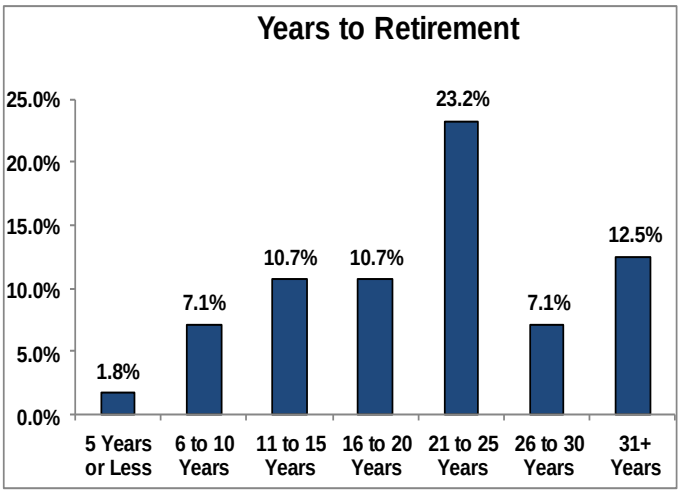
Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	1.8%	23.2%	53.6%	16.1%	5.4%
Insurance Rejecting Care	1.8%	42.9%	50.0%	1.8%	3.6%
Insurance Delaying and/ or Denying	1.8%	32.1%	57.1%	5.4%	3.6%
Language/ Culture of patients	3.6%	5.4%	58.9%	30.4%	1.8%
Referrals	5.4%	3.6%	39.3%	51.8%	-

Patient Age Cohort	O/P	I/P
0-19	10.4%	6.3%
20-64	45.8%	8.2%
65-84	21.6%	17.5%
85+	8.1%	3.3%



Local Health District	Percentage Physicians
Bear River	3.6%
Davis	5.4%
Salt Lake	64.3%
Summit	1.8%
Tooele	1.8%
Tri-County	1.8%
Utah	7.1%
Weber-Morgan	3.6%



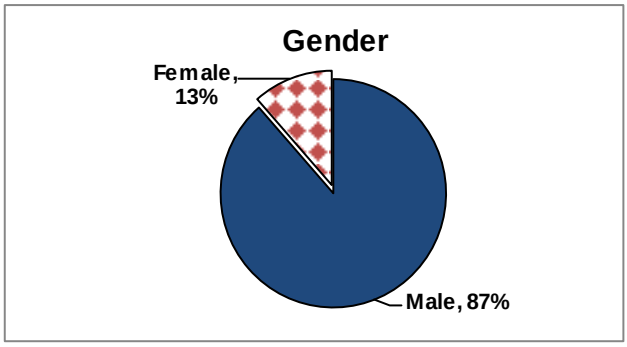


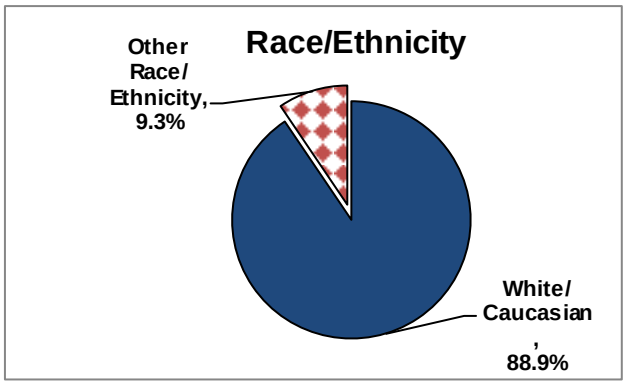
% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	30.4%	13.0%	39.3%	19.6%	8.9%	42.9%
Less than 25% Patients	46.4%	26.8%	48.2%	64.3%	10.7%	39.3%
25-50% of Patients	11.0%	39.3%	0.0%	0.0%	42.9%	1.8%
50-75% of Patients	0.0%	8.9%	0.0%	0.0%	16.1%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	3.6%	8.9%	0.0%
100% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%

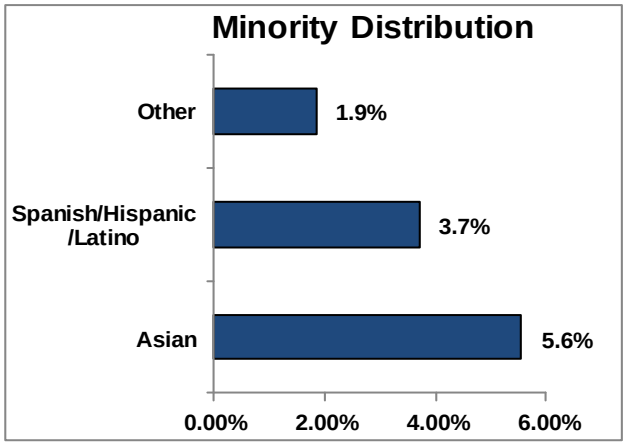
Works Cited

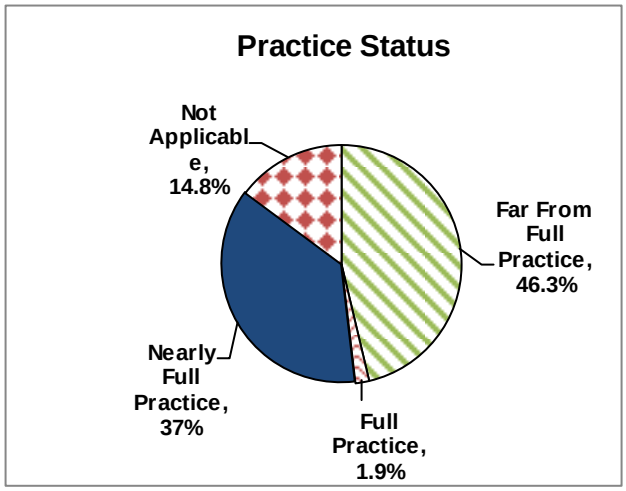
American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.

Zimbelman, J., Juraschek, S., Zhang, X., & Lin, V. (2010, November). Physical therapy workforce in the United States: forecasting nationwide shortages. *PM & R: the journal of injury, function, and rehabilitation, 2*(11), 1021-1029.





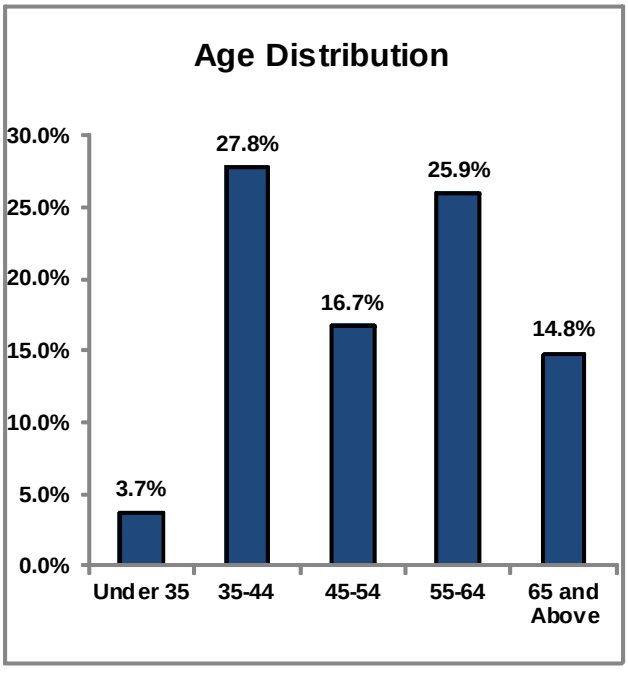


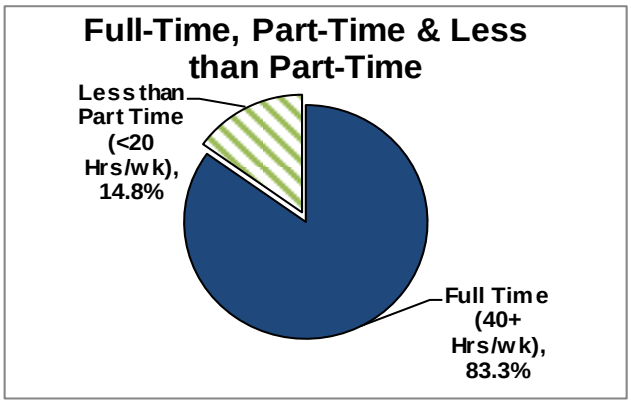


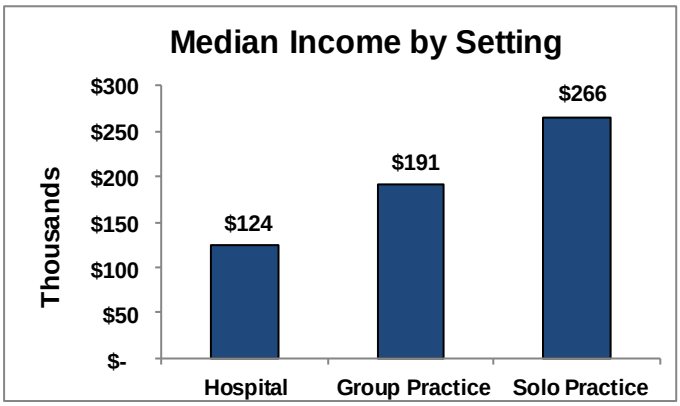
PLASTIC SURGERY:

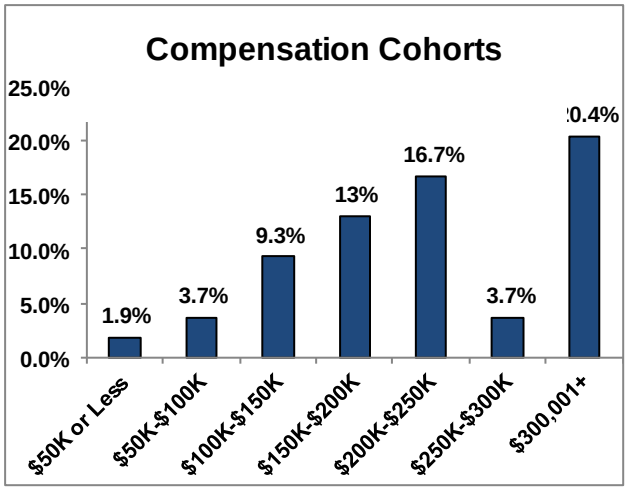
Count: 88 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 83
Total FTEs (60 hrs/wk=1.5 FTE): 111
Average Hours per Week: 51
Median Ann. Income adj. for 40hrs/wk: $200,000/yr
Median Ann. Income reported by DWS: $122,750/yr

1. In 2010, the AMA reported that the U.S. had 7,216 plastic surgeons for a ratio of 2.4 per 100,000 (American Medical Association, 2010, pp. 9, 458). Alternately, there are 42,213 people for every plastic surgeon in the nation.
2. Data from the American Society of Plastic Surgeons indicates there was an increase of 232% in the number of cosmetic procedures between the period of 2000-2010. Reconstructive surgery decreased by 8% between the period of 2000-2010. Cosmetic procedures increased 77% between 2000-2010. (American Society of Plastic Surgeons, 2010, pp. 7, 23)
3. Utah has 88 plastic surgeons, a ratio of 3.1 providers per 100,000 population. Alternately, there are 31,952 people for every plastic surgeon in Utah, better than the national ratio.
4. The University of Utah plastic surgery program trains two residents per year.

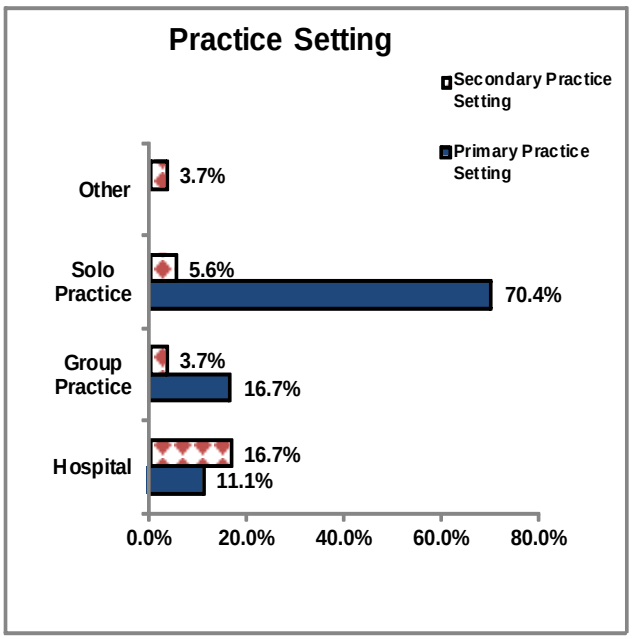






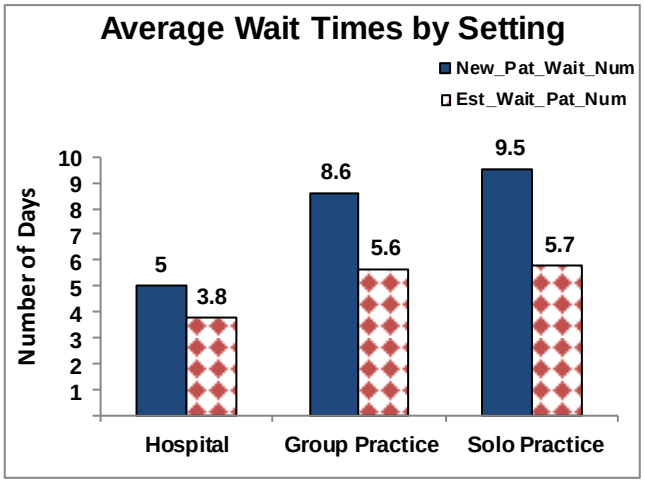


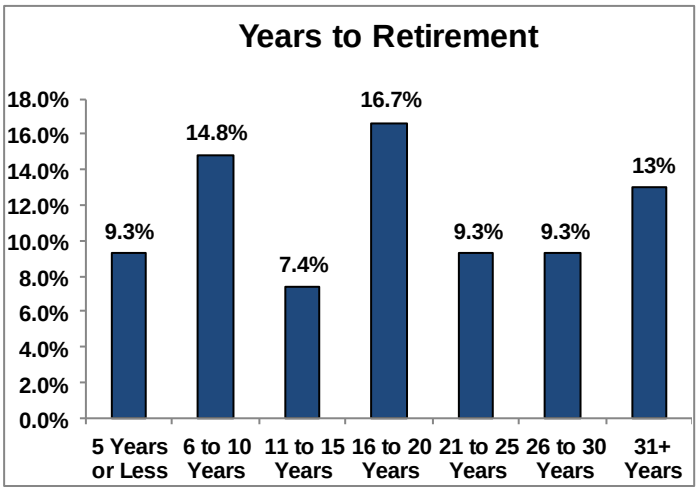
Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Appli-cable
Patient Pay	5.6%	24.1%	44.4%	13.0%	13.0%
Insurance Rejecting Care	5.6%	38.9%	31.5%	11.1%	13.0%
Insurance Delaying and/ or Denying	7.4%	51.9%	25.9%	1.9%	13.0%
Language/ Culture of patients	5.6%	3.7%	37%	46.3%	7.4%
Referrals	7.4%	3.7%	13%	64.8%	11.1%



Patient Age Cohort	O/P	I/P
0-19	9.3%	6.2%
20-64	64.2%	26%
65-84	18.2%	12.4%
85+	5.2%	2.2%

Local Health District	Percentage Physi-cians
Bear River	3.7%
Davis	11.1%
Salt Lake	48.1%
Southwest	7.4%
Summit	1.9%
Tri-County	1.9%
Utah	16.7%
Weber-Morgan	1.9%





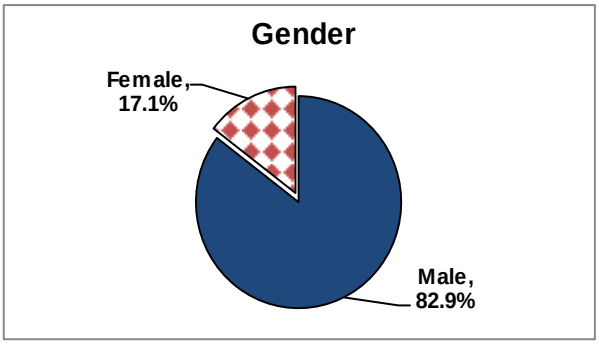
% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	37.0%	29.6%	44.4%	11.1%	24.1%	53.7%
Less than 25% Patients	55.6%	57.4%	50.0%	22.2%	37.0%	35.2%
25-50% of Patients	1.9%	6.0%	0.0%	14.8%	20.4%	3.7%
50-75% of Patients	0.0%	1.9%	0.0%	20.4%	11.1%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	13.0%	1.9%	0.0%
100% of Patients	0.0%	0.0%	0.0%	13.0%	0.0%	1.9%

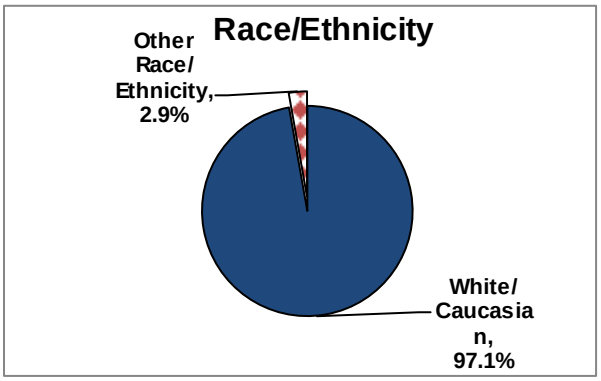
Works Cited

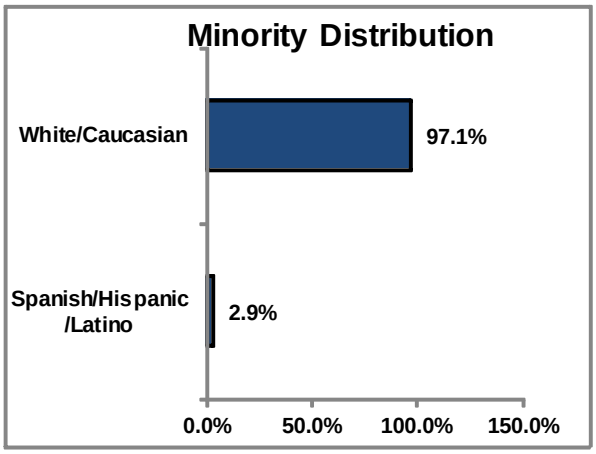
Accreditation Council for Graduate Medical Education. (2010). *Data Resource Book: Academic Year 2010-2011.* Retrieved 08 31, 2011, from www.acgme.org: http://www.acgme.org/acWebsite/dataBook/2010-2011_ACGME_Data_Resource_Book.pdf

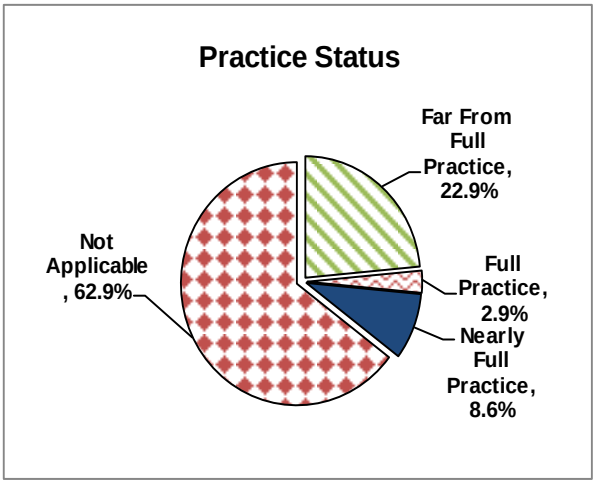
American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.

American Society of Plastic Surgeons. (2010). Retrieved 09 19, 2011, from American Society of Plastic Surgeons: Report of the 2010 Plastic Surgery Statistics: http://www.plasticsurgery.org/Documents/news-resources/statistics/2010-statisticss/Top-Level/2010-US-cosmetic-reconstructive-plastic-surgery-minimally-invasive-statistics2.pdf





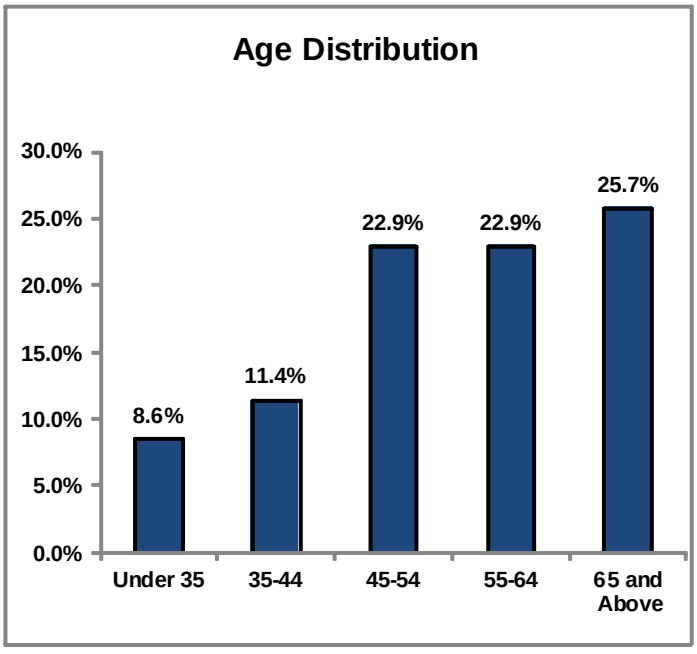


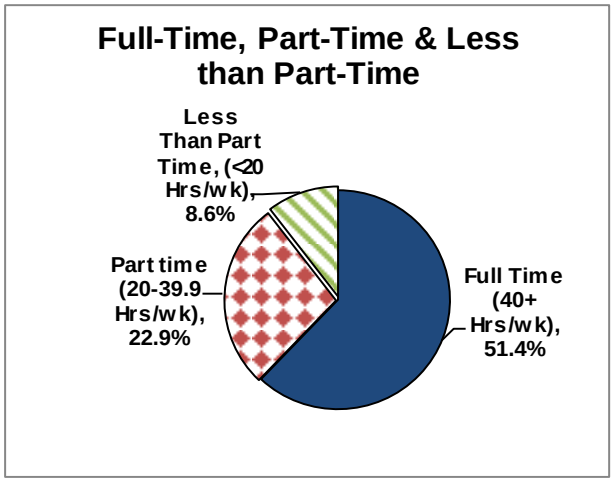


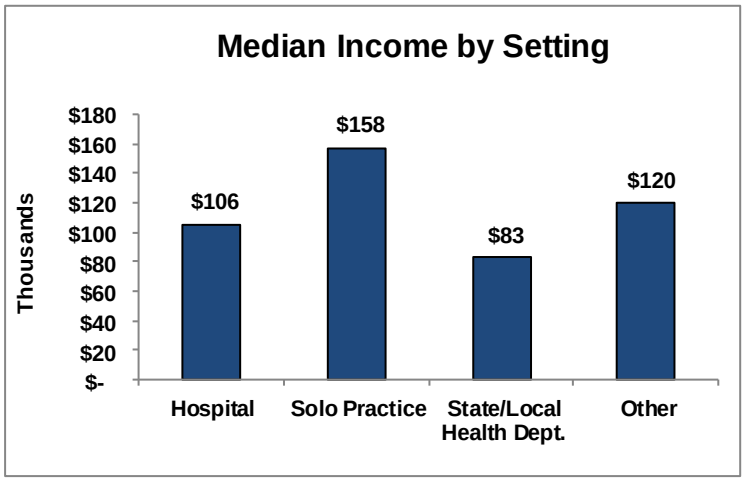
PREVENTIVE OCCUPATIONAL MEDICINE:

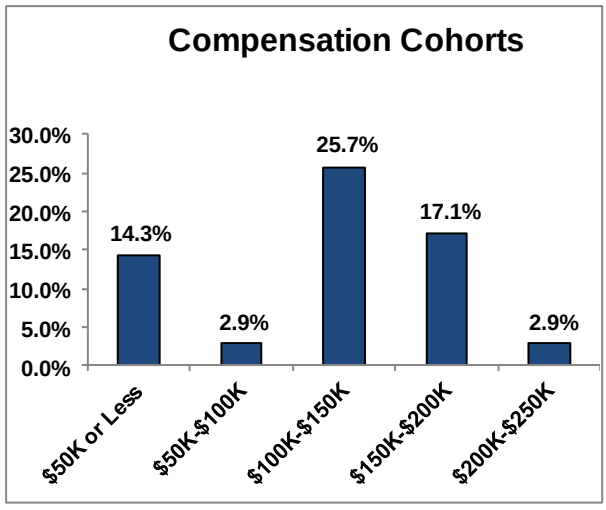
Count: 57 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 50
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 59
Average Hours per Week: 41
Median Ann. Income adj. for 40 hrs/wk: $154,286/ yr
Median Ann. Income reported by DWS: $68,407/ yr

1. In 2010, the AMA reported that there was 3,911 physicians in public health/general preventive medicine/ occupational medicine in the U.S. (American Medical Association, 2010, p. 9) This provides a physician-to-100,000 population ratio of 1.3, and a population per provider ratio of 77,884.
2. According to a policy statement from the American college of Occupational and Environmental Medicine (ACOEM), the current supply is not enough to meet the demand (Careers in Occupational and Environmental Medicine, 2001).
3. There are 57 public health/preventive medicine/ occupational medicine practitioners in Utah. This translates into a provider to 100,000 population ratio of 2.0 and a ratio of 49,298 people per provider in the State.
4. The UMEC demand study suggests that the supply of the public health/preventive medicine/occupational medicine providers in Utah is adequate for the needs of the state.

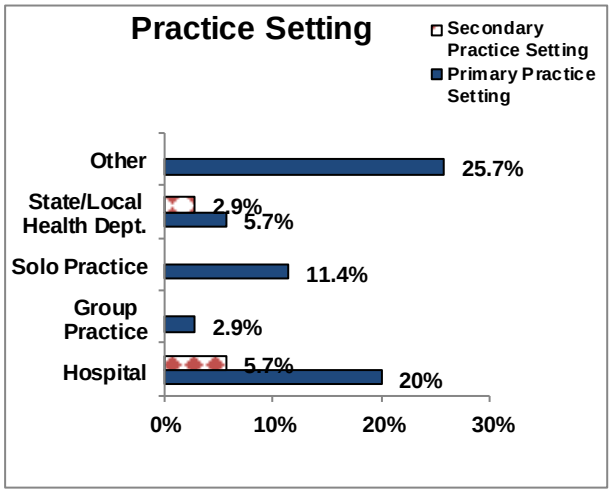






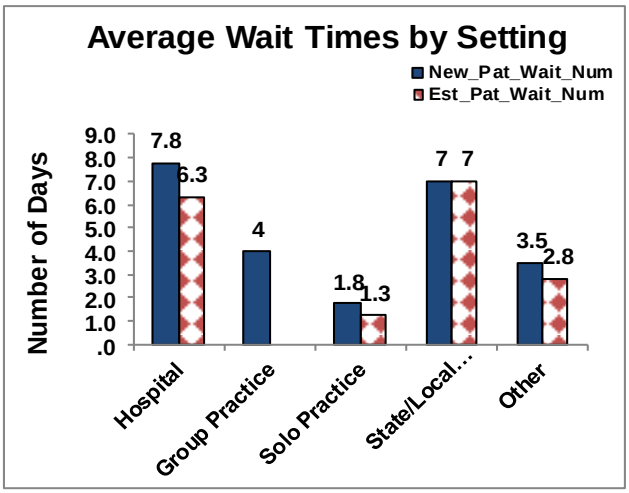


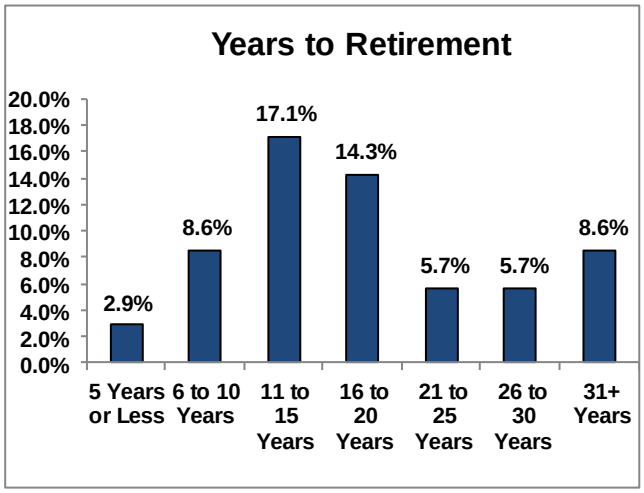
Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	17.1%	11.4%	11.4%	14.3%	45.7%
Insurance Rejecting Care	14.3%	22.9%	25.7%	8.6%	28.6%
Insurance Delaying and/ or Denying	14.3%	22.9%	28.6%	8.6%	25.7%
Language/ Culture of patients	20.0%	8.6%	25.7%	25.7%	20.0%
Referrals	20.0%	8.6%	28.6%	20.0%	22.9%



Local Health District	Percentage Physicians
Bear River	5.7%
Davis	11.4%
Salt Lake	42.9%
Southwest	5.7%
Tooele	8.6%
Utah	11.4%
Weber-Morgan	2.9%

Patient Age Cohort	O/P	I/P
0-19	2.9%	4.5%
20-64	63%	0.2%
65-84	7%	-
85+	18.5%	-



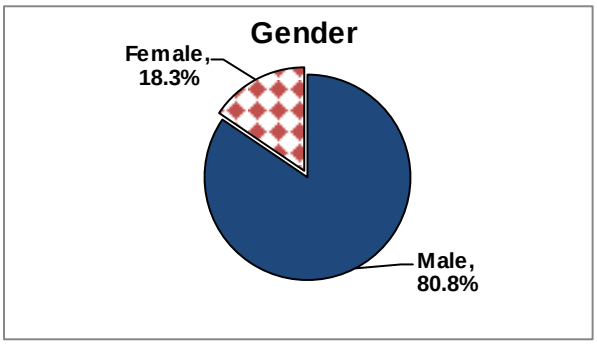


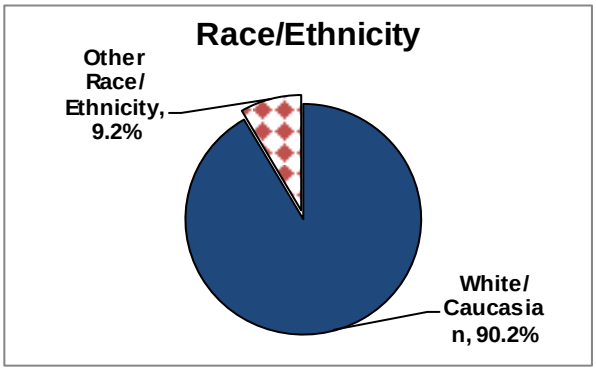
% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	48.6%	46.0%	45.7%	25.7%	25.7%	48.6%
Less than 25% Patients	0.0%	5.7%	8.6%	20.0%	2.9%	8.6%
25-50% of Patients	6%	5.7%	0.0%	8.6%	5.7%	0.0%
50-75% of Patients	2.9%	0.0%	0.0%	0.0%	5.7%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	0.0%	5.7%	0.0%
100% of Patients	0.0%	0.0%	2.9%	2.9%	11.4%	0.0%

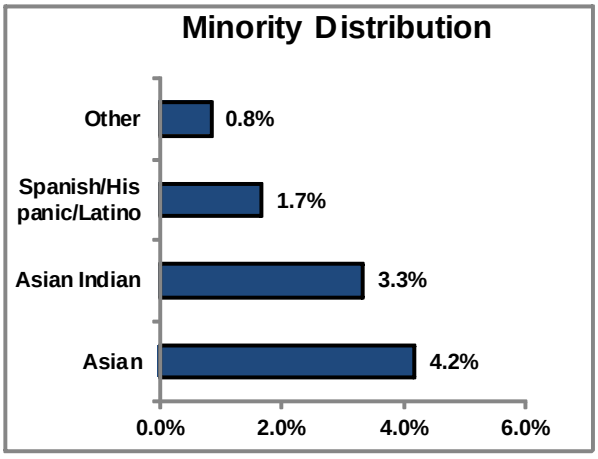
Works Cited

Careers in Occupational and Environmental Medicine. (2001, 12 01). Retrieved 09 20, 2011, from American College of Occupational and Environmental Medicine: http://www.acoem.org/Page2Column.aspx?PageID=7392&id=992

American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.



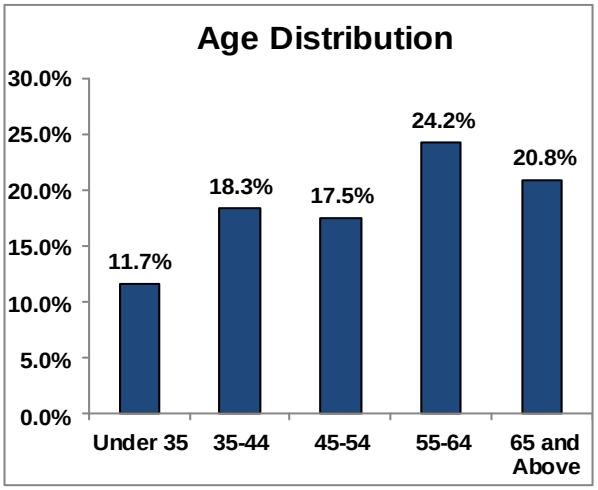


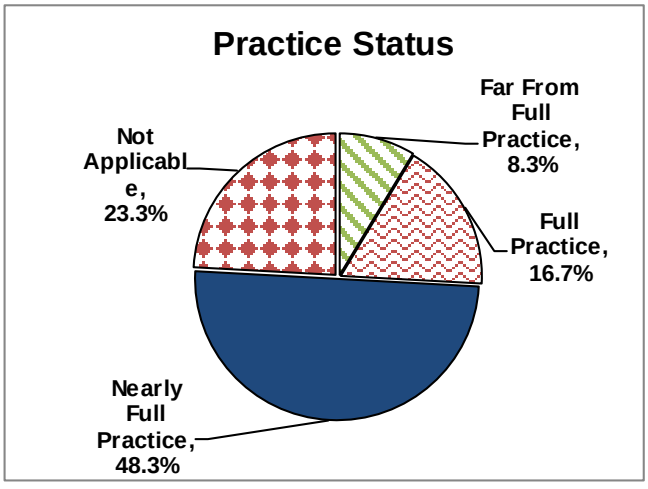


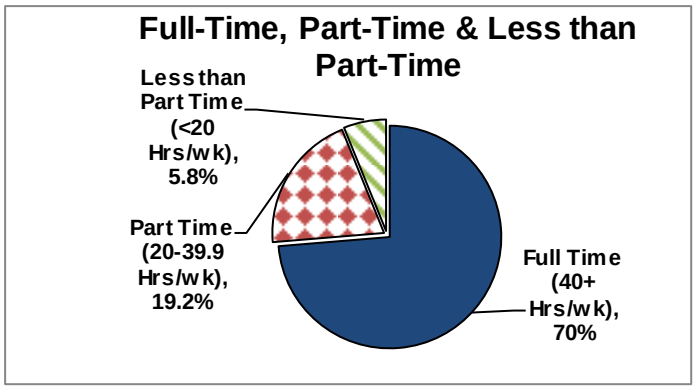
PSYCHIATRISTS:

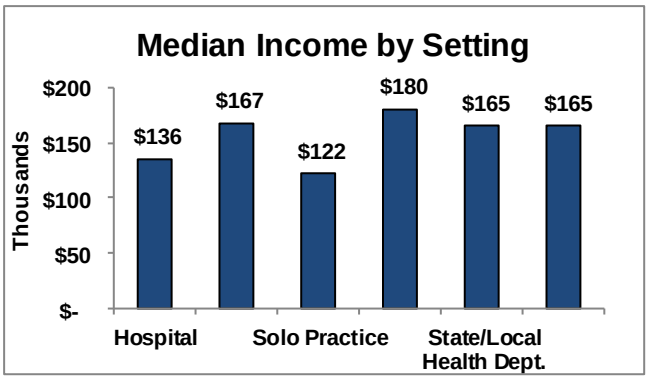
Count: 195 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 177
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 220
Average Hours per Week: 45
Median Ann. Income adj. for 40 hrs/wk: $146,061/yr
Median Ann. Income reported by DWS: $67,299/yr

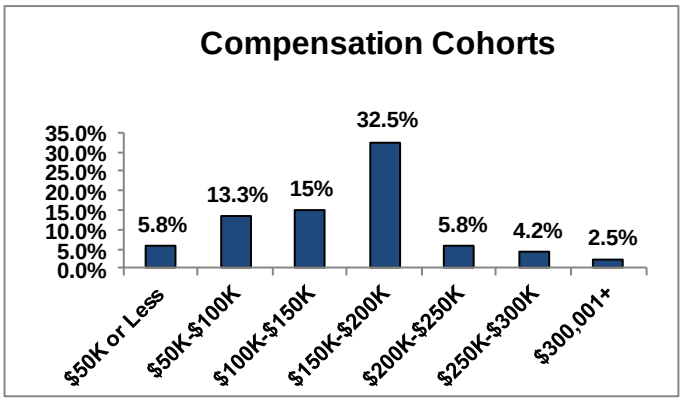
1. Utah has 195 psychiatrists practicing in the State, with a provider-to-100,000 population ratio of 7.0. In other words, there are 14,379 people per provider in Utah, many more than the national average.
2. According to the Utah demand study model, there seem to be an adequate number of adult psychiatrists in Utah.
3. According to the AMA 2008 data, there are 40,904 psychiatrists in the United States. This equates to 13.4 per 100,000 population, or 7,447 people per psychiatrist in the nation. (American Medical Association, 2010, p. 9)
4. The Substance Abuse and Mental Health Services Administration (SAMHSA) reported that 14.4% of the population 12 and older in Utah suffered from serious psychological distress. This is more prevalent in the 18-25 year old population, 21.5% have suffered from serious psychological distress. This makes Utah the top state with serious psychological distress compared to the percentage US population aged 18 or older with serious psychological distress, 11.3%. (State Estimates of Substance Use and Mental Health from the 2005-2006 National Surveys on Drug Use and Health)





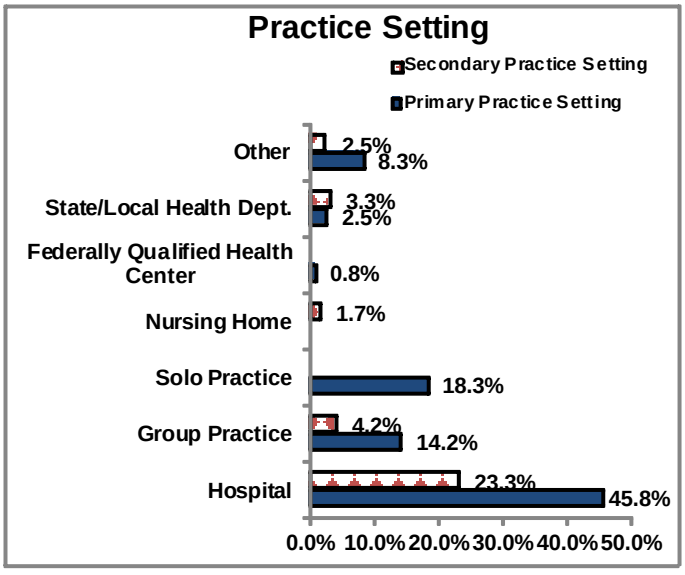




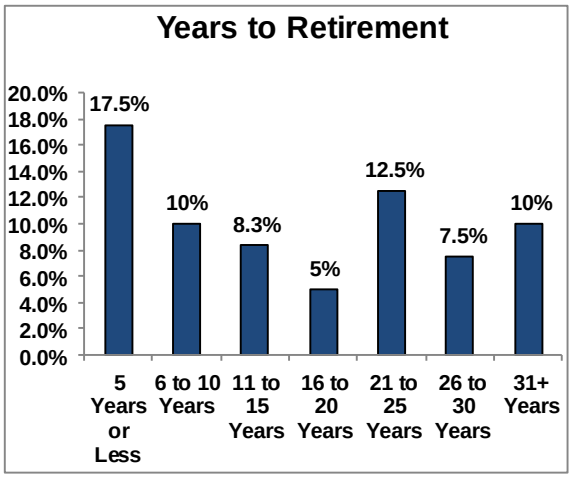


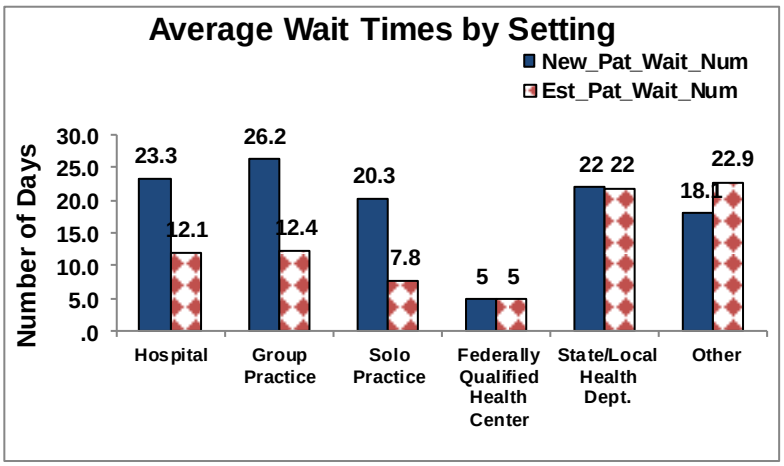
Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	10.0%	42.5%	25.0%	7.5%	15.0%
Insurance Rejecting Care	11.7%	35.8%	33.3%	3.3%	15.8%
Insurance Delaying and/ or Denying	14.2%	34.2%	29.2%	6.7%	15.8%
Language/ Culture of patients	10.8%	4.2%	32.5%	40.8%	11.7%
Referrals	10.8%	6.7%	36.7%	35.8%	10.0%

Patient Age Cohort	O/P	I/P
0-19	13.3%	6.7%
20-64	55.0%	30.6%
65-84	10.1%	5.4%
85+	1.0%	1.8%



Local Health District	Percentage Physicians
Bear River	1.7%
Central	0.8%
Davis	5.8%
Salt Lake	48.3%
Southeastern	0.8%
Southwest	3.3%
Summit	1.7%
Tooele	0.8%
Tri-County	0.8%
Utah	14.2%
Weber-Morgan	5.8%



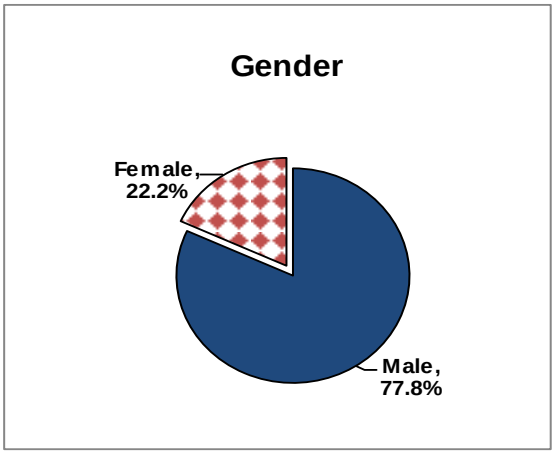


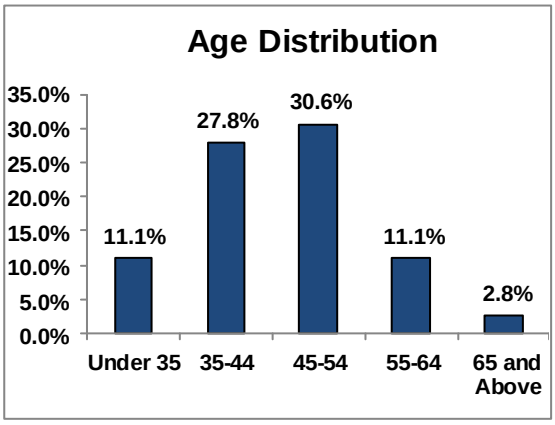
% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	29.2%	29.0%	50.0%	17.5%	15.8%	57.5%
Less than 25% Patients	22.5%	43.3%	30.8%	41.7%	20.8%	20.0%
25-50% of Patients	15.0%	9.2%	1.7%	16.7%	21.7%	1.7%
50-75% of Patients	4.2%	0.0%	0.0%	4.2%	15.8%	0.8%
75-99% of Patients	10.8%	0.8%	0.0%	0.8%	7.5%	0.0%
100% of Patients	0.8%	0.0%	0.0%	1.7%	0.8%	2.5%

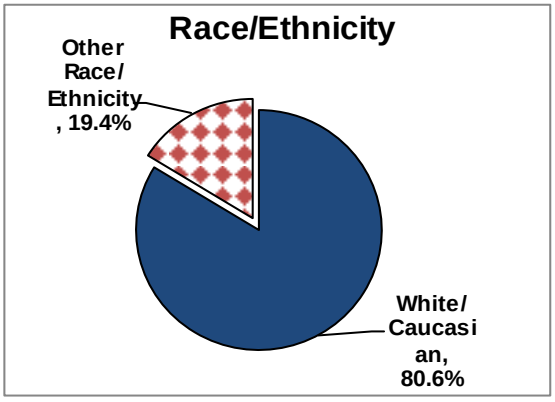
Works Cited

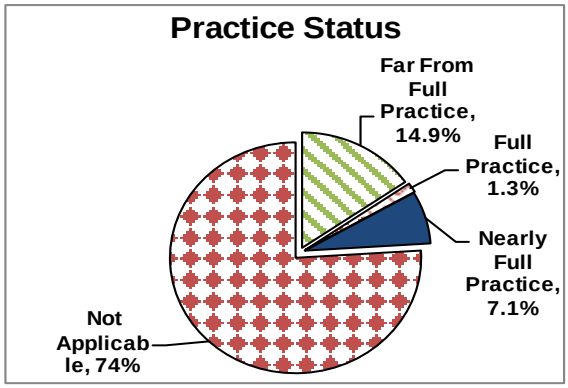
American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.

State Estimates of Substance Use and Mental Health from the 2005-2006 National Surveys on Drug Use and Health. (n.d.). Retrieved 09 20, 2001, from U.S. Department of Health & Human Services: http://oas.samhsa.gov/2k6state/adultTabs.htm





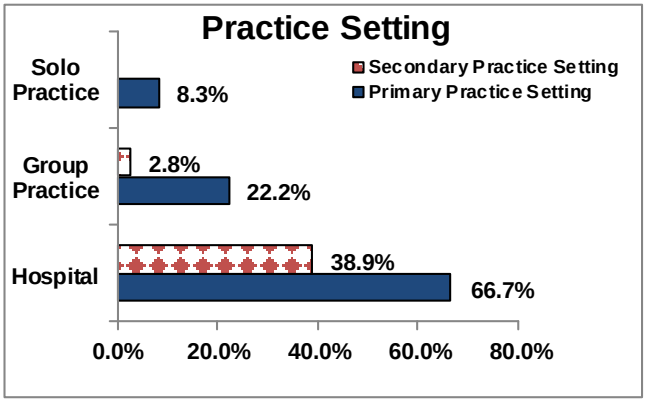


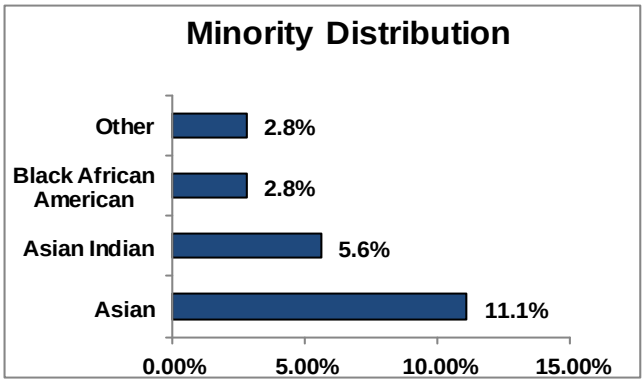


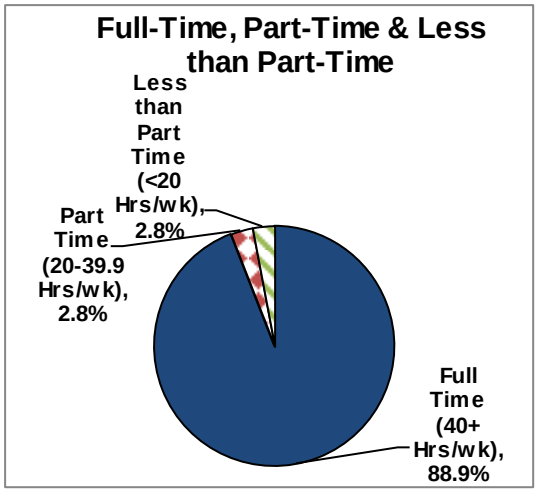
PULMONARY DISEASE:

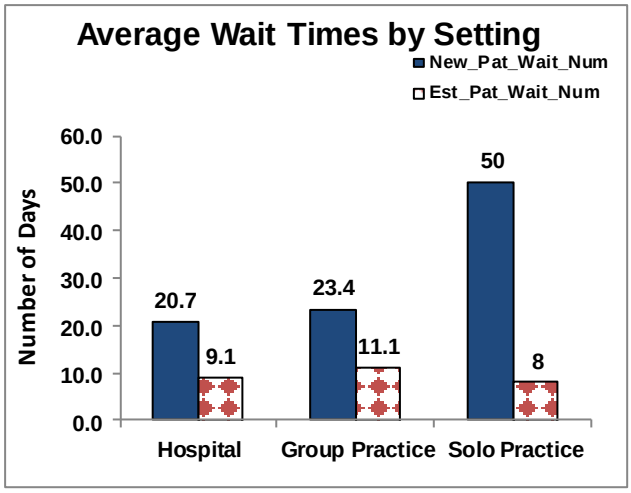
Count: 58 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 7
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 94
Average Hours per Week: 64
Median Ann. Income adj. for 40 hrs/wk: $142,857/yr
Median Ann. Income reported by DWS: $129,373/yr

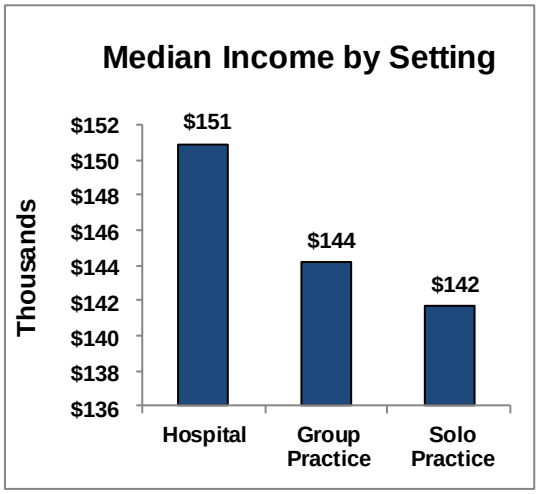
1. Utah has 58 pulmonary disease physicians, with a provider-to-100,000 population ratio of 2.1. Alternately, there are 47,928 Utahns to every pulmonary disease physician in the State.
2. According to the UMEC demand study, while there is no immediate shortage in the pulmonology, and critical care medicine specialties, they need to be watched for any imbalances.
3. In a 2010 report, the AMA reported that there were 10,704 pulmonary diseases physicians in the United States for a ratio of 3.5 per 100,000. (American Medical Association, 2010, p. 9) Alternately, there are 28,457 people for every pulmonary disease specialist in the nation.
4. Shortages in the pulmonologist workforce of about 35% by 2020, and 46% by 2030 were projected by the Committee of Manpower for Pulmonary and Critical Care Societies (COMPACCS). (Angus DC & (COMPACCS)., 2000)

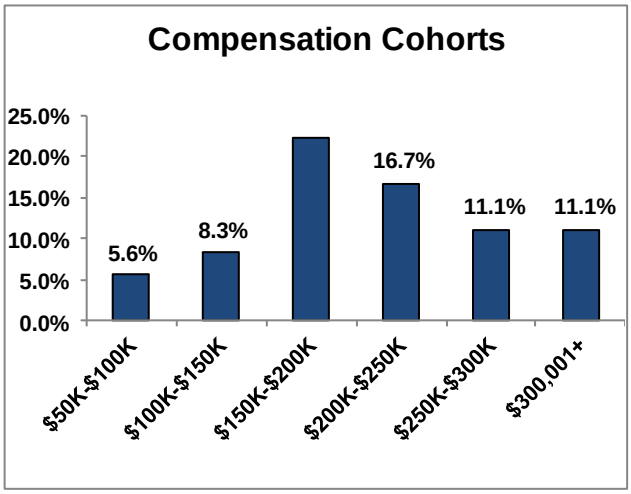








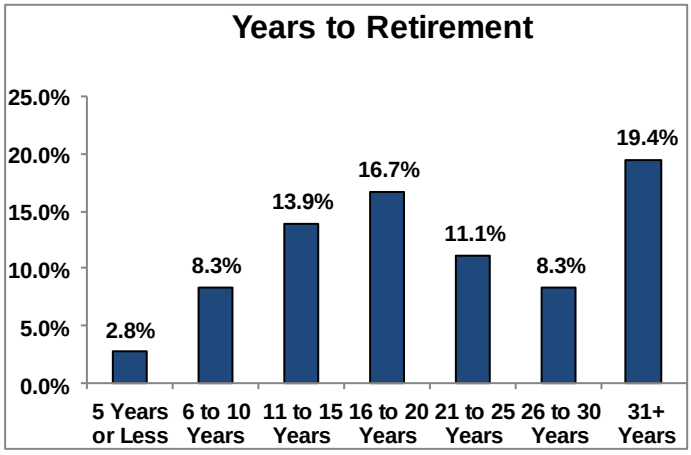




% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	13.9%	13.9%	8.3%	8.3%	13.9%	47.2%
Less than 25% Patients	52.8%	2.8%	63.9%	63.9%	11.1%	19.4%
25-50% of Patients	5.6%	47.2%	0.0%	0.0%	41.7%	0.0%
50-75% of Patients	0.0%	8.3%	0.0%	0.0%	2.8%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	0.0%	2.8%	0.0%
100% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	5.6%

Patient Age Cohort	O/P	I/P
0-19	8.6%	5.1%
20-64	33.1%	29.6%
65-84	39.1%	42.7%
85+	10.1%	12.3%

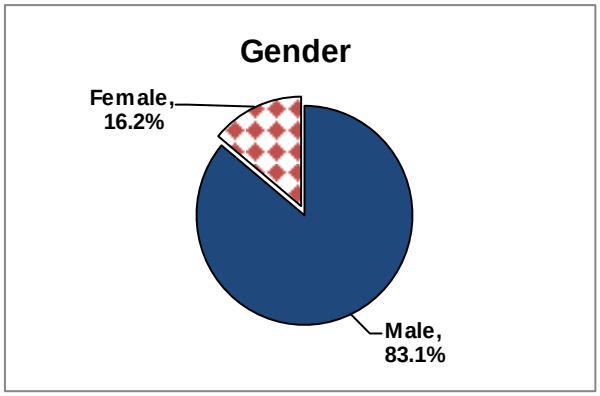
Local Health District	Percentage Physicians
Bear River	2.8%
Salt Lake	44.4%
Southwest	2.8%
Utah	11.1%
Weber-Morgan	5.6%

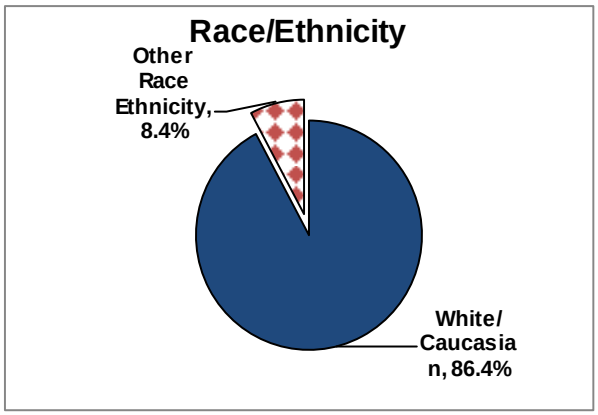


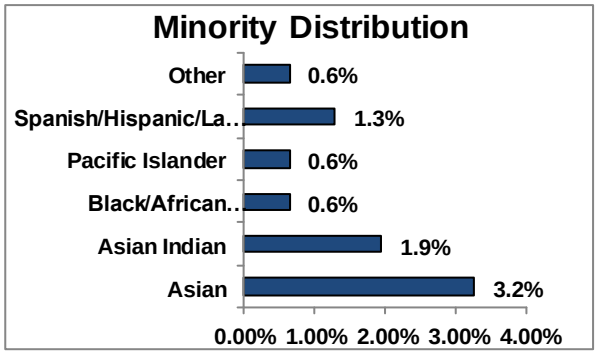
Works Cited

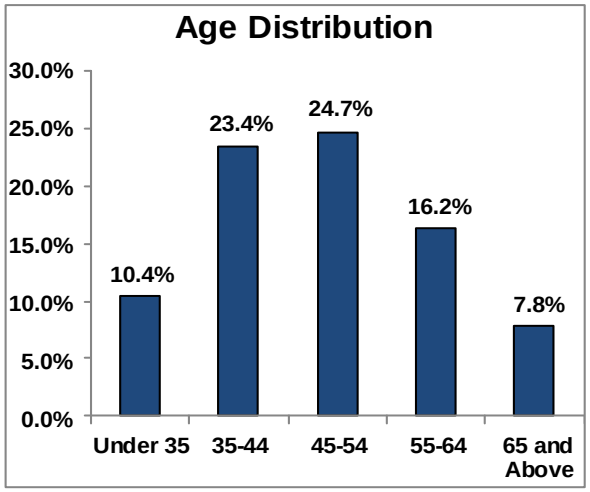
American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.

Angus DC, K. M., & (COMPACCS)., C. o. (2000, December). Caring for the critically ill patient. Current and projected workforce requirements for care of the critically ill and patients with pulmonary disease: can we meet the requirements of an aging population? *Journal of American Medical Association, 284*(21), 2762-70.





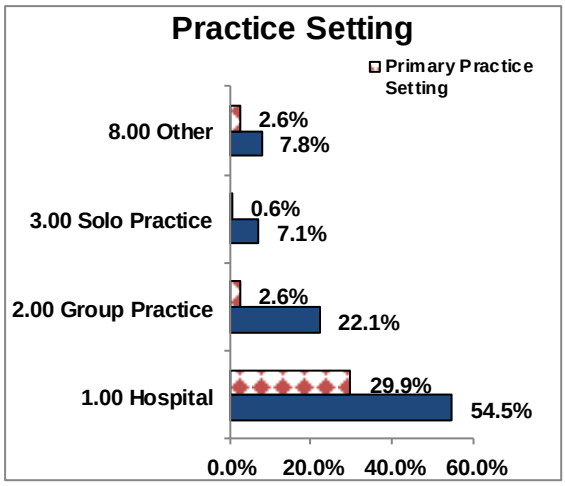


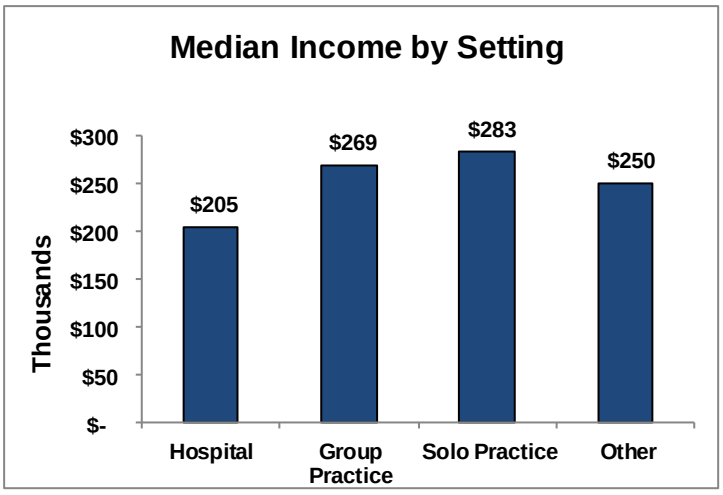


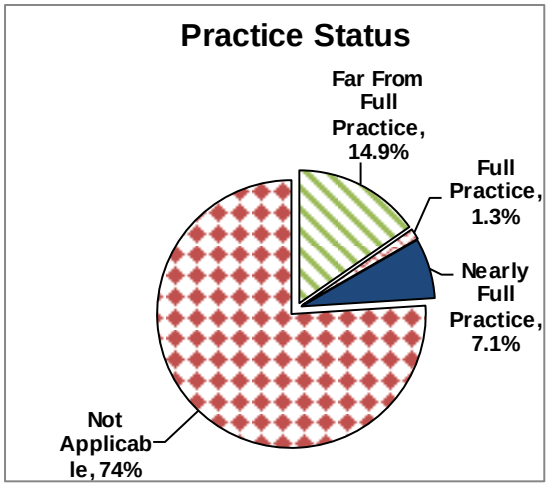
RADIOLOGY, DIAGNOSTIC :

Count: 250 physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 235
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 308
Average Hours per Week: 49
Median Ann. Income adj. for 40 hrs/wk: $234,286/yr
Median Ann. Income reported by DWS: $255,538/yr

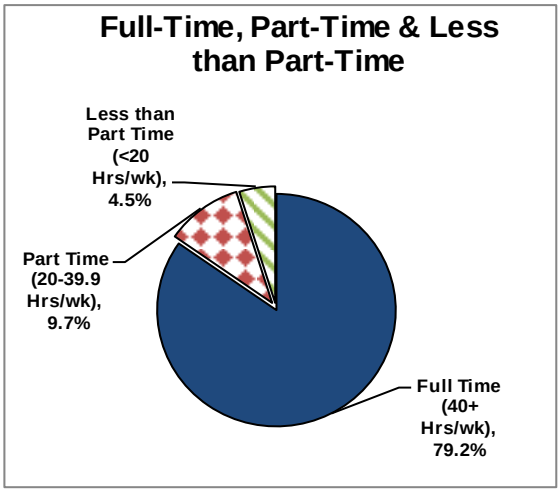
1. Utah has 250 diagnostic radiologists currently practicing. This places the provider-to-100,000 population ratio at 8.9, or 11,204 people per provider in Utah.
2. UMEC demand study indicated a shortage of diagnostic radiologists in Utah. However, diagnostic radiology is a specialty that could be practiced remotely or electronically and does not need the presence of a provider on site of patient care, and therefore the shortage is likely being covered by out-of-state radiologists. More importantly, there seems to be a national surplus of diagnostic radiologists, which might help alleviate Utah's concerns for this workforce.
3. In a 2010 publication, the AMA reported that the U.S. had approximately 25,441 diagnostic radiologists for a ratio of 8.4 per 100,000 populations, or 11,973 people per provider in the nation. (American Medical Association, 2010, pp. 9, 458).
4. According to a recent report, the national demand and supply of radiologists shifted toward a surplus between 2003 and 2007. Furthermore, it was reported to have a 3% surplus in 2007 (Soni, Bhargavan, Forman, & Sunshine, 2010).
5. Data from the National Resident Matching Program (NRMP) shows that positions offered have increased 9.3% since 2006 (National Resident Matching Program, 2011, p. 2). Furthermore, the American Society of Radiologic Technicians (ASRT) reported "82% of radiography students, 77% of radiation therapy students ... were able to find employment in their discipline within six months of graduating in 2009. This employment rate represents a decline from 2008 of 7.1 percentage points in radiography, 3.7 in radiation therapy". In addition, it was reported that those students who haven't been able to find employment after graduation believe that "too [there are] many graduate[s] in relation to the number of open positions." (American Society of Radiologic Technologists, 2011, p. 2)

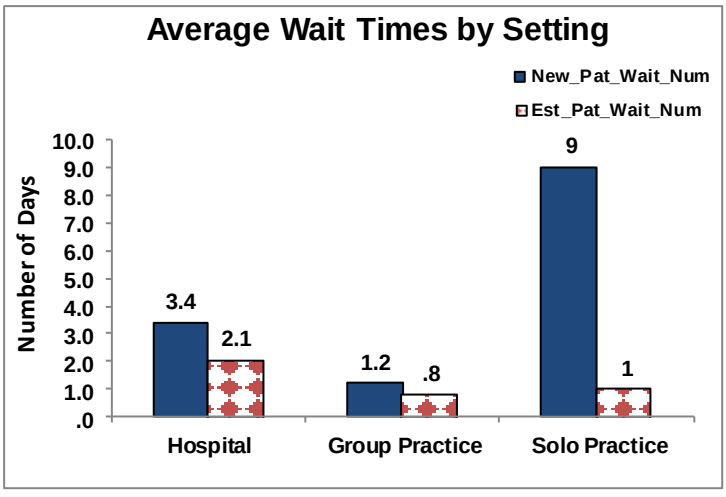


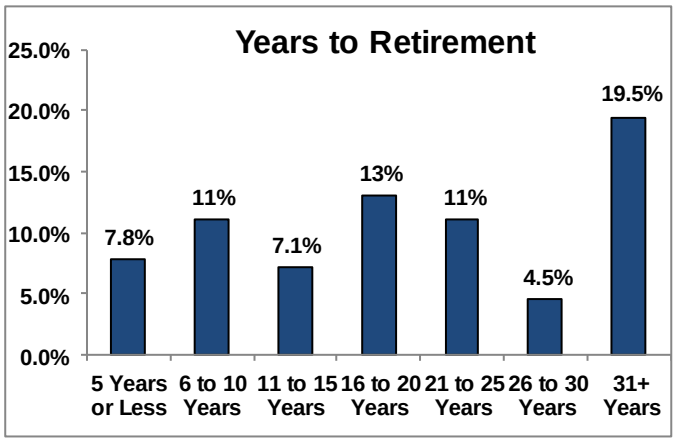




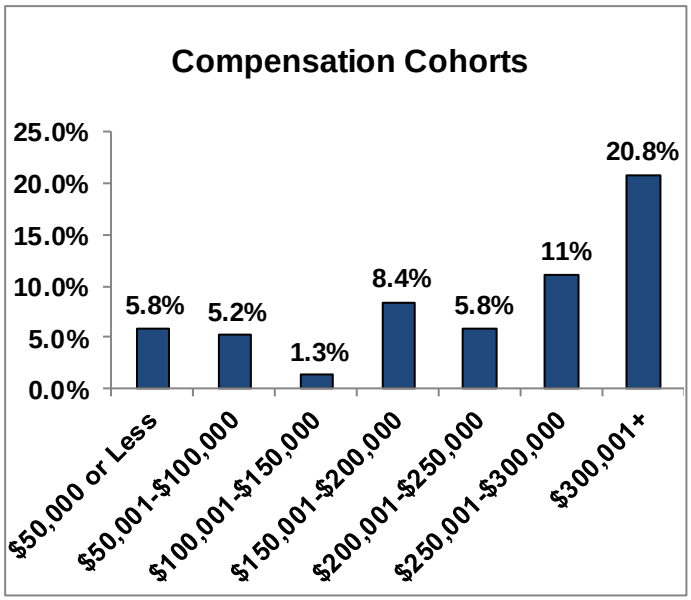
% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	12.3%	12.3%	20.8%	14.9%	10.4%	28.6%
Less than 25% Patients	21.4%	7.1%	14.9%	21.4%	4.5%	6.5%
25-50% of Patients	3.2%	15.6%	0.6%	0.6%	14.9%	0.6%
50-75% of Patients	0.0%	1.9%	0.0%	0.0%	5.2%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%
100% of Patients	0.0%	0.0%	0.6%	0.0%	0.0%	1.3%







Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Appli-cable
Patient Pay	25.3%	22.7%	22.1%	9.7%	20.1%
Insurance Rejecting Care	26%	24%	24%	5.8%	20.1%
Insurance Delaying and/ or Denying	24.7%	33.8%	20.8%	3.9%	16.9%
Language/ Culture of patients	24.7%	2.6%	34.4%	21.4%	16.9%
Referrals	25.3%	1.3%	16.2%	25.3%	31.8%



Local Health District	Percentage Physicians
Bear River	3.2%
Central	1.9%
Davis	3.9%
Salt Lake	31.8%
Southeastern	0.6%
Southwest	5.2%
Summit	0.6%
Tri-County	0.6%
Utah	7.8%
Weber-Morgan	5.2%
Out of State	36.4%

Patient Age Cohort	O/P	I/P
0-19	17.2%	16.0%
20-64	27.7%	24.2%
65-84	25%	20.0%
85+	11.3%	6.0%

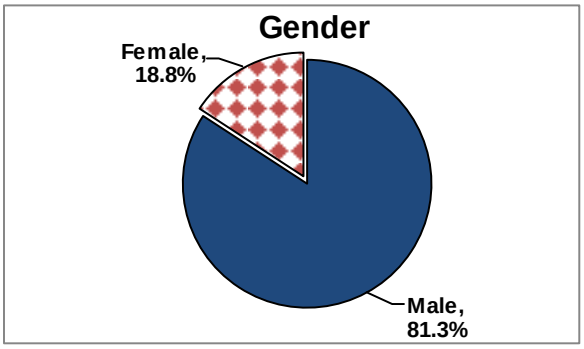
Works Cited

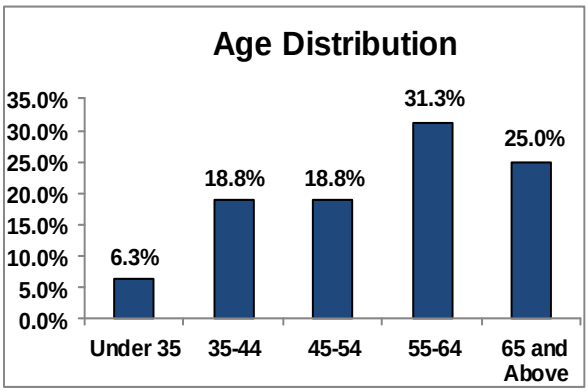
American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.

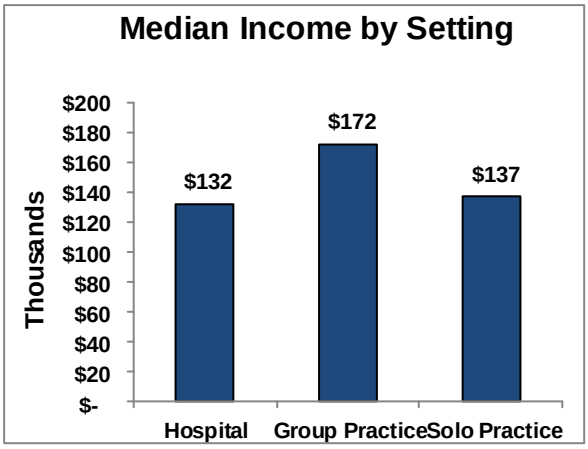
American Society of Radiologic Technologists. (2011, 01). *Enrollment Snapshot of Radiography, Radiation Therapy and Nuclear Medicine Technology Programs 2010.* Retrieved 09 20, 2011, from American Society of Radiologic Technologists: https://www.asrt.org/Media/pdf/Research/EnrollmentSnapshot10.pdf

National Resident Matching Program. (2011, 02). *Results & Data: Specialties Matching Services 2011 Appointment Year*. Retrieved 09 5, 2011, from http://www.nrmp.org/data/resultsanddatasms2011.pdf

Soni, K., Bhargavan, M., Forman, H. P., & Sunshine, J. H. (2010). Who's Underworked and Who's Overworked Now? An Update on Radiologist Shortage and Surplus. *American Journal of Roentgenology*, 697-703.



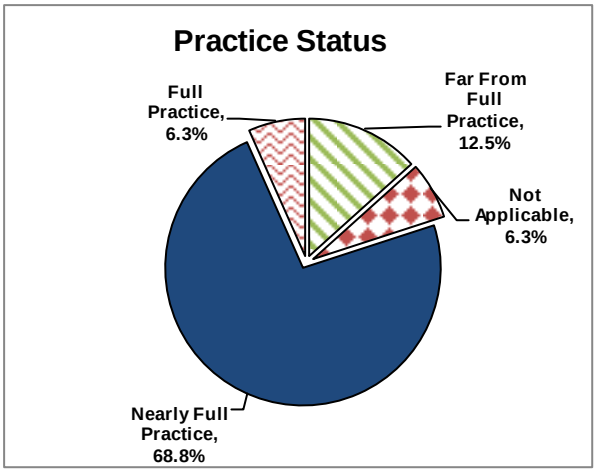


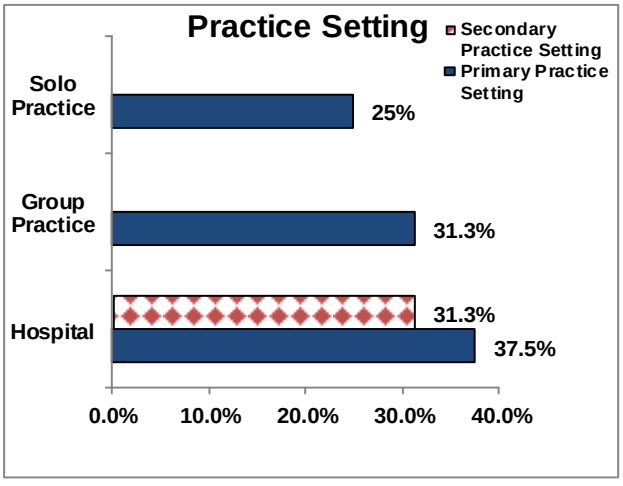


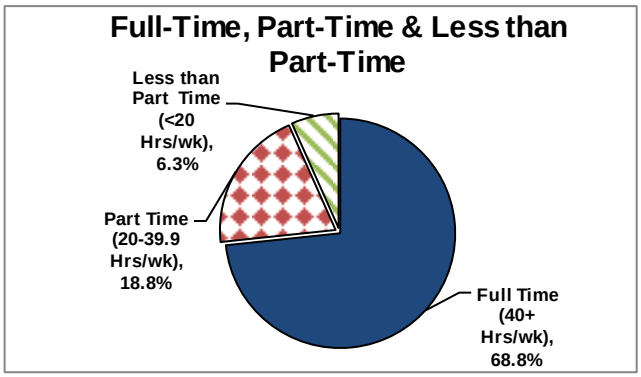
RHEUMATOLOGY:

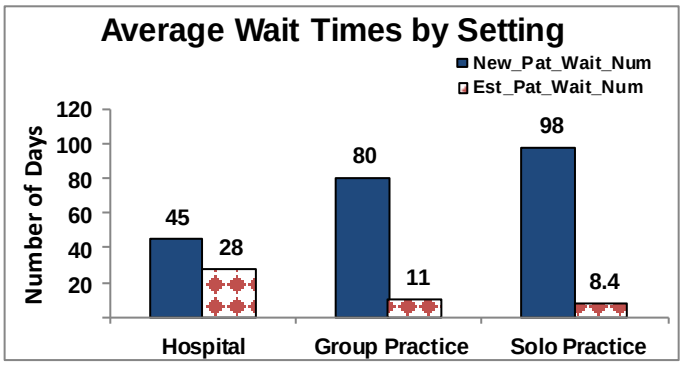
Count: 26 Physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 23
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 29
Average Hours per Week: 44
Median Ann. Income adj. for 40 hrs/wk: $147,727/yr
Median Ann Income reported by DWS: $121,497/yr

1. A recent study by the American College of Rheumatology projected a shortage of 124,400 rheumatologists over the next 20 years (Welcher , 2010). This shortage is due to the aging baby boomer generation. In a 2010 report, the AMA reported that there were 4,642 rheumatologists in the United States (American Medical Association, 2010, p. 26). This places the provider to 100,000 population aged 60 years and above ratio at 8.2. Alternately, there are 13,588 people aged 60 years and above for every rheumatologist in the nation.
2. There are 26 rheumatologists in Utah, equivalent to a ratio of 7.4 providers per 100,000 population aged 60 years and above.
3. According to the Centers for Disease Control (CDC), 21% of adults living in Utah suffer from arthritis (Utah Arthritis Program, 2011). This is very close to the national average of 22% or one in five adults. (Arthritis Data and Statistics, 2010) 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.
4. According to the UMEC demand study, rheumatology is a specialty facing shortage in Utah and requires immediate attention. It is also a specialty facing the longest wait times for new patients in the State.
5. The University of Utah's Rheumatology Fellowship Program trains one fellow annually.





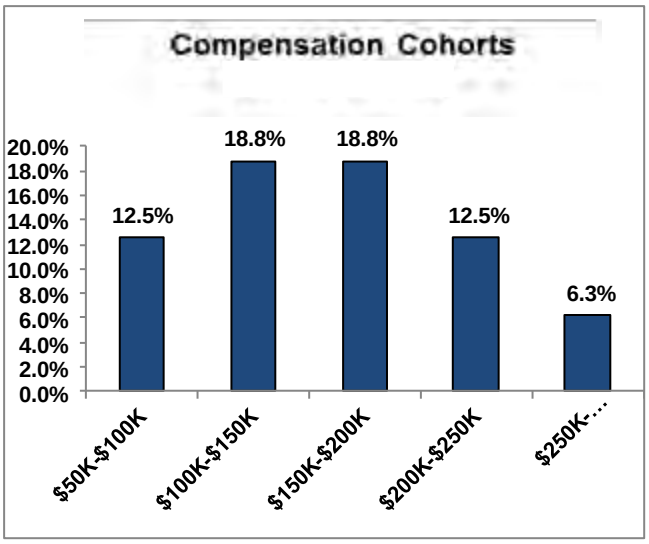




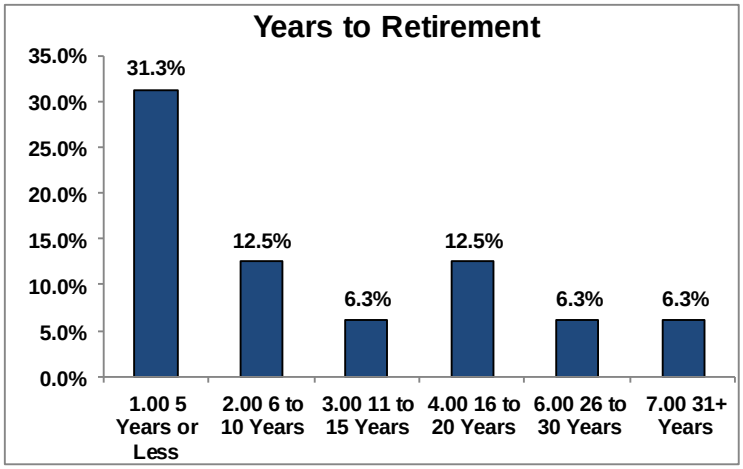
% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	0.0%	6.3%	6.3%	0.0%	6.3%	37.5%
Less than 25% Patients	68.8%	25%	68.8%	68.8%	12.5%	31.3%
25-50% of Patients	6.3%	37.5%	0.0%	0.0%	18.8%	0.0%
50-75% of Patients	0.0%	6.3%	0.0%	0.0%	31.3%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	6.3%	6.3%	6.3%
100% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Patient Age Cohort	O/P	I/P
0-19	2.8%	0.4%
20-64	58.1%	30.2%
65-84	25.3%	14.2%
85+	4.6%	1.9%

Local Health District	Percentage Physicians
Bear River	6.3%
Salt Lake	31.3%
Southwest	6.3%
Utah	12.5%
Weber-Morgan	12.5%



Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Applicable
Patient Pay	6.3%	43.8%	37.5%	12.5%	-
Insurance Rejecting Care	6.3%	37.5%	50%	-	6.3%
Insurance Delaying and/or Denying	12.5%	12.5%	75%	-	-
Language/Culture of patients	6.3%	-	75%	12.5%	6.3%
Referrals	6.3%	6.3%	68.8%	12.5%	6.3%



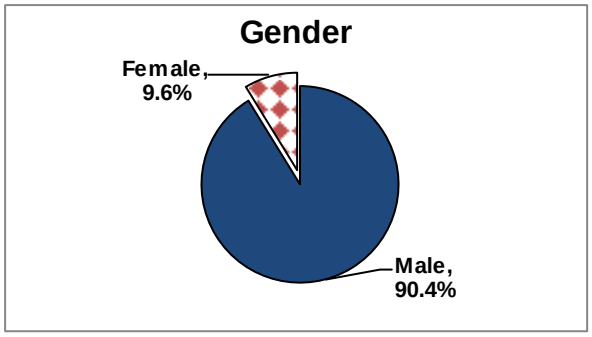
Works Cited

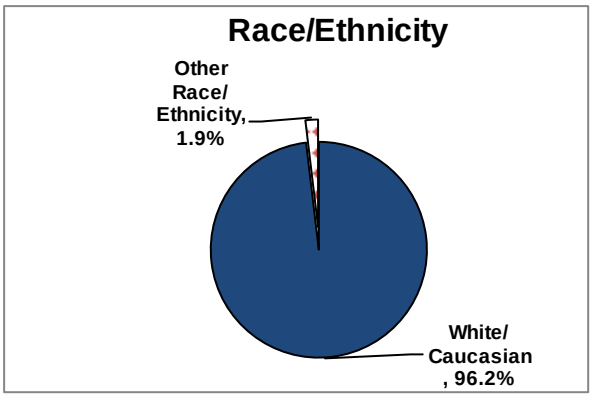
Arthritis Data and Statistics. (2010, 10 20). Retrieved 09 21, 2011, from Centers for Disease Control and Prevention: http://www.cdc.gov/arthritis/data_statistics.htm

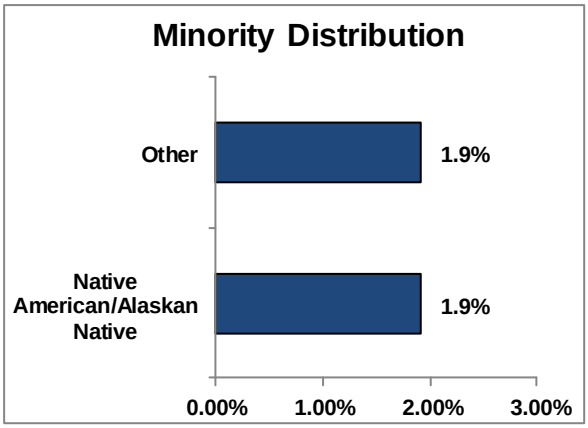
Utah Arthritis Program. (2011, 03 1). Retrieved 09 21, 2011, from Centers for Disease Control and Prevention: http://www.cdc.gov/arthritis/state_programs/programs/utah.htm

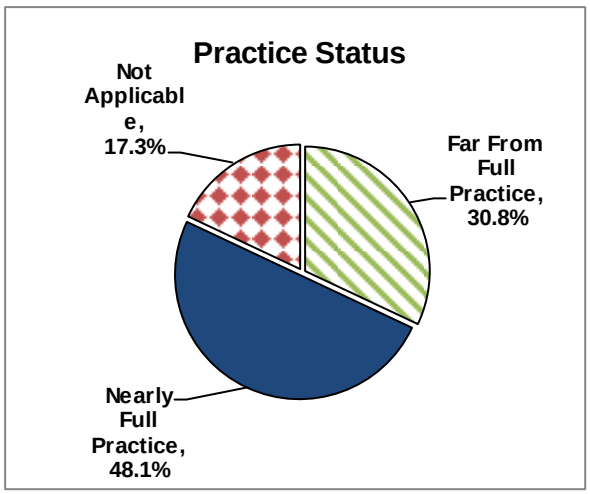
American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.

Welcher , C. (2010, 03 27). *Funding for Graduate Medical Education.* Retrieved 09 21, 11, from www.Rheumatology.org: http://www.rheumatology.org/education/training/conference_slides/Funding_for_Graduate_Medical_Education.pdf#search="shortage"





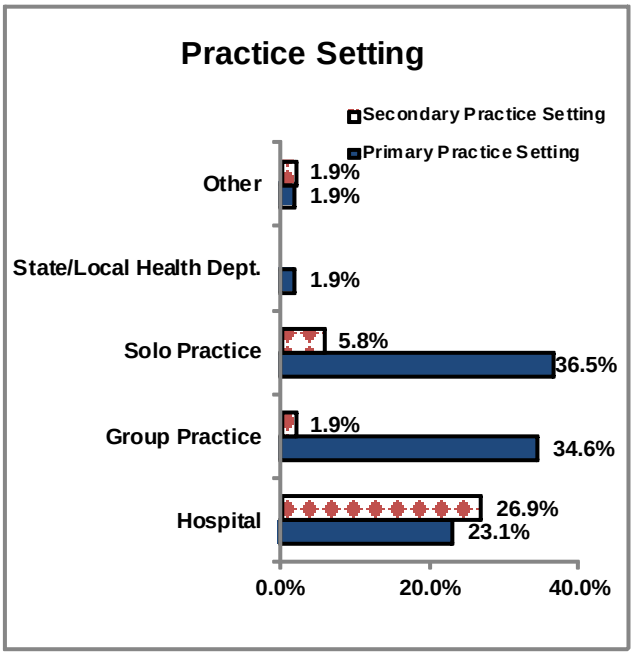


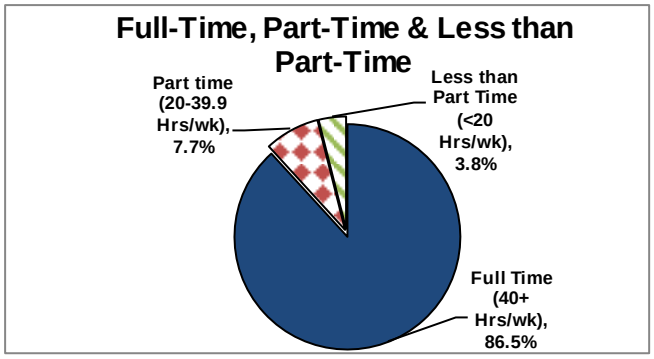


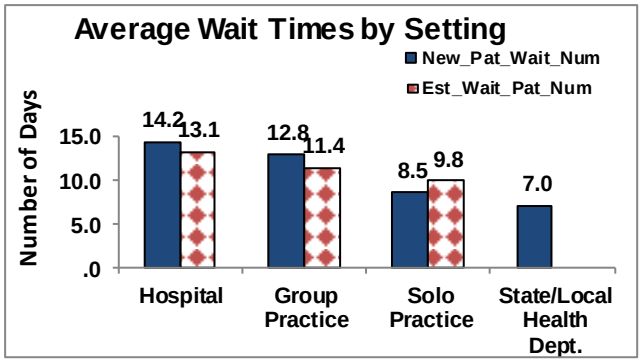
UROLOGY:

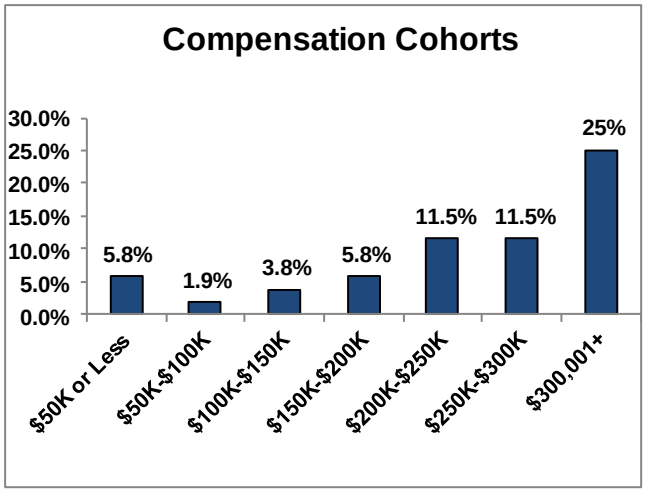
Count: 84 Physicians
Standardized FTEs (40 or more hrs/wk=1 FTE): 80
Total Hr. FTEs (60 hrs/wk=1.5 FTE): 12
Average Hours per Week: 53
Median Ann. Income adj. for 40 hrs/wk: $236,667/yr
Median Ann. Income reported by DWS: $199,500 /yr

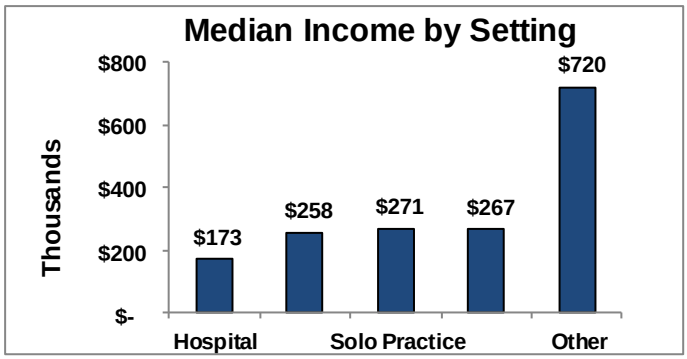
1. There are10,266 urologists or 3.4 providers per 100,000 population in the nation. (American Medical Association, 2010, p. 26) This translates to 29,671 people per urologist.
2. Utah has 84 urologists practicing in the state. This translates to 3 providers per 100,000 population, or 33,181 people per provider in the state.
3. UMEC demand study suggests that Utah has an adequate number of urologists. The wait times for new and established patients seeking the services of an urologist have also decreased since 2003.
4. Recent matching data suggest that positions offered are slowly rising by approximately three to four vacancies annually in recent years (Residency Match 2012). The ACGME indicated 1,079 on duty residents trained by 122 US programs (Accreditation Council for Graduate Medical Education, 2010, p. 14).
5. The University of Utah urology program accepts two residents into the program each year.





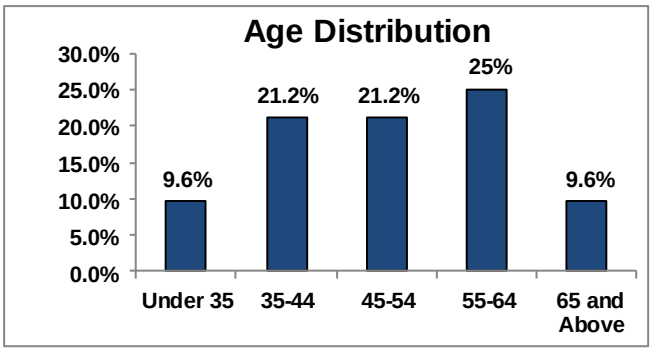




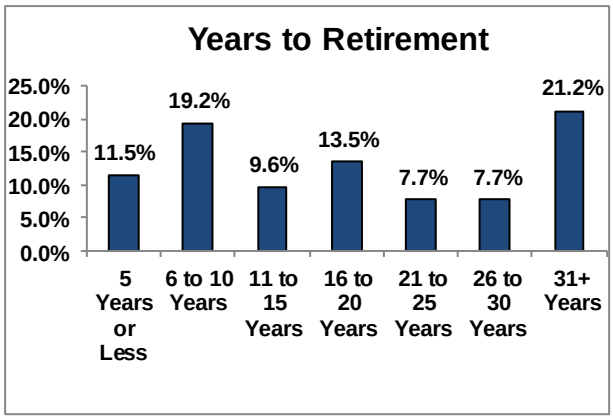


Patient Age Cohort	O/P	I/P
0-19	11%	10.2%
20-64	31.5%	23.3%
65-84	41.4%	33.9%
85+	13.1%	7.0%

Issue	Missing	Major Issue	Minor Issue	Not an Issue	Not Appli-cable
Patient Pay	7.7%	17.3%	44.2%	25%	5.8%
Insurance Rejecting Care	3.8%	26.9%	59.6%	3.8%	5.8%
Insurance Delaying and/or Denying	3.8%	30.8%	51.9%	7.7%	5.8%
Language/Culture of patients	3.8%	5.8%	61.5%	21.2%	7.7%
Referrals	3.8%	-	25.0%	61.5%	9.6%



Local Health District	Percentage Physicians
Bear River	6.0%
Davis	10.0%
Salt Lake	38.0%
Southwest	12.0%
Utah	10.0%
Weber-Morgan	8.0%



% Patients	Medicaid	Medicare	Charity	Uninsured	Insured	VA
Do not accept	13.5%	13.5%	19.2%	11.5%	7.7%	32.7%
Less than 25% Patients	57.7%	7.7%	55.8%	65.4%	9.6%	40.4%
25-50% of Patients	5.8%	44%	1.9%	0.0%	44.2%	1.9%
50-75% of Patients	0.0%	13.5%	0.0%	0.0%	13.5%	0.0%
75-99% of Patients	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%
100% of Patients	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%

Works Cited

Accreditation Council for Graduate Medical Education. (2010). *Data Resource Book: Academic Year 2010-2011.* Retrieved 08 31, 2011, from www.acgme.org: http://www.acgme.org/acWebsite/dataBook/2010-2011_ACGME_Data_Resource_Book.pdf

American Medical Association. (2010). *Physician Characteristics and Distribution in the US.* Division of Survey and Data Resources, American Medical Association.

Residency Match 2012. (n.d.). Retrieved 09 21, 2011, from www.auanet.org: http://www.auanet.org/content/residency/residency-match.cfm#statistics

THE UTAH MEDICAL EDUCATION COUNCIL

The 2012 publication of *Utah's Physician Workforce: A Study on the Supply and Distribution of Physicians in Utah* is the most comprehensive statistical reference available on the supply and distribution of physicians licensed in Utah.

This resource presents detailed tabulations on the aggregate physician workforce as well as summary profiles on each of the subspecialties available in Utah. The analysis serves as a guide for comparing national and regional differences in the physician workforce and the implications of such on the population in Utah.

Data for this report are obtained from the Utah Medical Education Council's (UMEC) 2003 survey of physicians licensed in Utah by the Division of Occupational and Professional Licensing (DOPL).

For more information on other UMEC publications and additional data on the physician workforce in Utah, visit the UMEC website at www.utahmec.org.

State of Utah