

ALASKA LEGISLATURE COMMITTEE FILES, 2003-2004 8672

11242 SENATE LABOR & COMMERCE

Population Estimation:

To enable a comparison of the physicians in the Anchorage community with the U.S. national average benchmarks and other data, it was necessary to estimate more specifically the population in need of care in the private sector. Listed below and to the right are the sources of population data used in the 1998 study and represent to some extent the assumptions made to determine logical physician/population figures. The population projections for the 2000 study and now the 2002 study are based upon the original 1998 population estimates adjusted by the projected population growth rates from the State of Alaska.

To estimate the potential primary care patient population in Anchorage, the 2000 estimate was increased by 4.9% resulting in the 2002 estimate of 269,567.

The population for the specialists was determined by the composite statewide figure of potential specialty care patients from the 2000 report with a 2/3 addition at the Anchorage growth rate of 4.9% and a 1/3 addition at the statewide growth rate of 2.26%. The resulting 2002 estimate of potential specialty care patients is 393,300.

Total Population by Locality:

- Alaska Dept. of Labor, Research & Analysis, Demographics Unit "Alaska Population Projection"

Native Population

- US Bureau of the Census "Alaska Native/Native American Population, Revised 4-29-97"
- Alaska Native Medical Center, native population by community
- 81-85% of native are excluded from the target population based on the ratio of native admissions at Providence compared to the Alaska Native Medical Center

Military Population

- Elmendorf AFB, Director for Personnel and Administration "Alaska Military Services Population" September 30, 1996 (Revised 3-24-97)
- 0% growth is assumed through 2000
- 100% of Active Duty personnel are excluded from the target population
- 25% of Military Dependents are excluded from the target population (assumption is that 75% use Providence or Regional)
- 0% of Reserve Forces, Civil Services and Base Exchange employees are excluded from the target population

VA Population

- Anchorage, Fairbanks, Southeast and Alaska Total--VA Administration
- Other Localities--allocated proportionately based on population to equal Alaska total

Out of Service Area Population

- Estimated percent of remaining population that does not utilize Providence and Regional Hospital

Total Physicians in Anchorage Today:

Multiplying national physician/population ratios by the estimated 2002 Anchorage population and the estimated 2008 Anchorage population produces benchmark national average comparisons for Anchorage in 2002 and 2008. The Anchorage physician figures were determined both by the PAMC staff figures and the 2002 Medical Directory of the Alaska State Medical Association. Physicians practicing only in the public sector were not included.

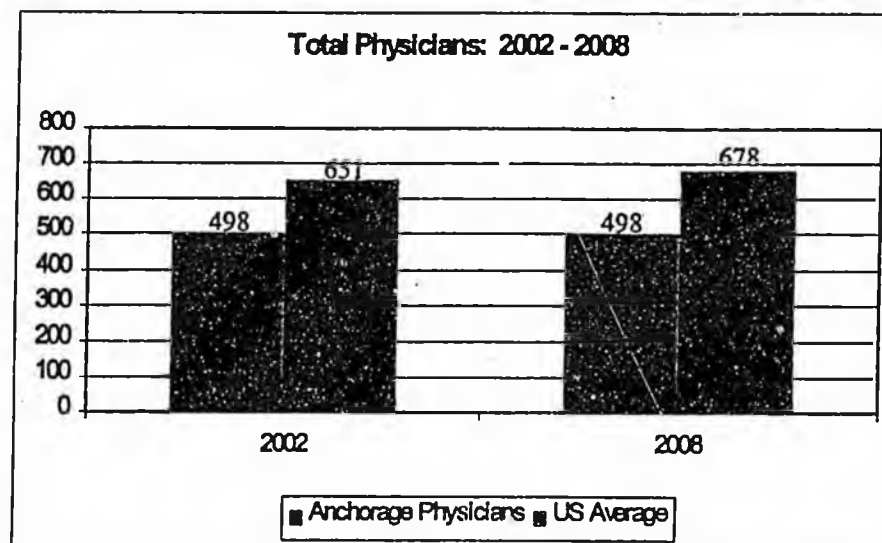
Currently there are 524.85 FTE physicians (after adjusting for time spent practicing) in the Anchorage area. This graphical comparison of the Anchorage physicians with the US average benchmarks includes only 498.05 or 95% of the Anchorage Physicians because only those specialties with 2002 US average benchmarks could be included. The 5% not included are described below the graph.

Based on national physician benchmarks, this represents 153 physicians less than the national average benchmark.

Total Physicians in the Future:

With no change to the 2002 physician complement, it is estimated that physician supply for Anchorage would fall close to 180 physicians below the national average in 2008.

It may be challenging to maintain the current physician levels given anticipated retirements (Section IV).



Primary Care: All were included.

Hospital Based: All were included.

Medical Specialty: Geriatric Medicine (1.75), Oncology/Radiation (1), Pain Management (5), and Sleep (1.6) for a total of 9.35 Anchorage physicians were excluded because there were no 2002 US Benchmarks to compare these specialties.

Pediatric Specialty: Pediatric Pulmonology (1), Pediatric Neurodevelopment (2), and Pediatric Intensive Care (1) for a total of 4 Anchorage physicians were excluded because there were no 2002 US Benchmarks to compare these specialties.

Surgery: Perinatology (2), Hand Surgery (1.75), and Pediatric Surgery (2) for a total of 5.75 Anchorage Physicians were excluded because there were no 2002 US Benchmarks to compare these specialties.

Mental Health: All were included.

Administration: All administrators were excluded because there were no 2002 US Benchmarks to compare these specialties.

Total Physician by Type of Practice:

Currently in Anchorage there are 151.45 primary care providers (including Family Practice, Internal Medicine, and Pediatrics), 92.1 medical providers, 14.75 pediatric providers, 140.5 surgical providers, 92.2 hospital based providers, and 26.15 mental health providers.

Primary care providers are below the national average by a total of 27.55 providers.

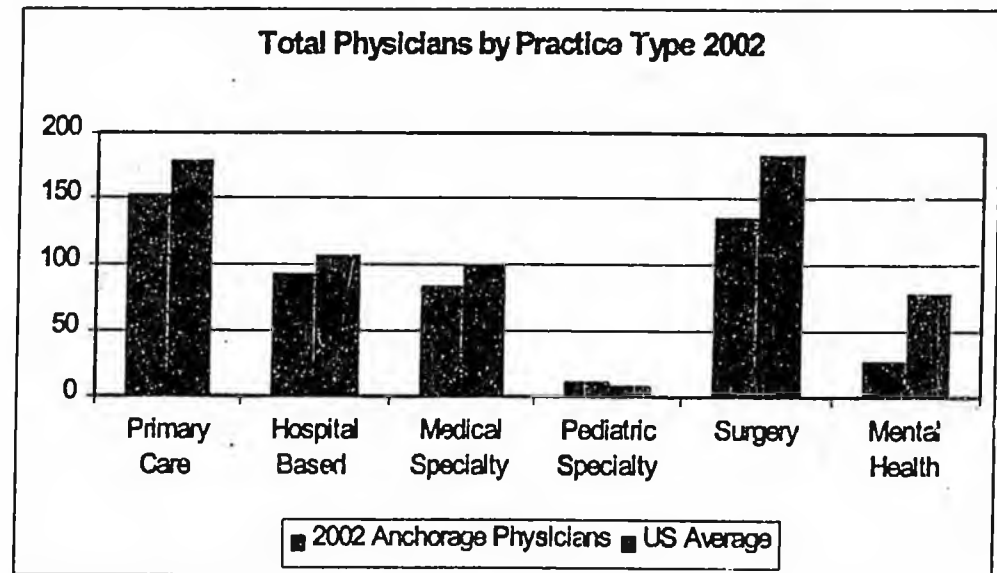
Hospital based providers are below the national average by 12.5 providers.

Medical specialist providers are below the national average by a total of 15.5 providers. There were 9.35 Anchorage medical specialists not included because there were no available US average benchmarks.

Pediatric specialist providers are above the national average by a total of 2.55 providers. There were 4 additional Anchorage pediatric specialists not included because there were no available US average benchmarks.

Surgical specialist providers are below the national average by a total of 48.85 providers. There were 5.75 surgical specialists not included because there were no available US average benchmarks.

Mental Health providers are below the national average by a total of 50.85 providers.



1998 and 2002 Physicians Comparison:

It is of interest to compare the number of Anchorage physicians by practice type in 1998 and 2002. Both the 1998 and 2002 physician numbers were adjusted for the time physicians spend practicing and then rounded to the nearest whole number for this comparison.

Only those specialties with 1998 and 2002 Anchorage physician data were included in this graphical comparison. This graph includes 90% of the 2002 Anchorage Physicians because only those specialties with 1998 comparison data could be included. The 10% not included are described below the graph.

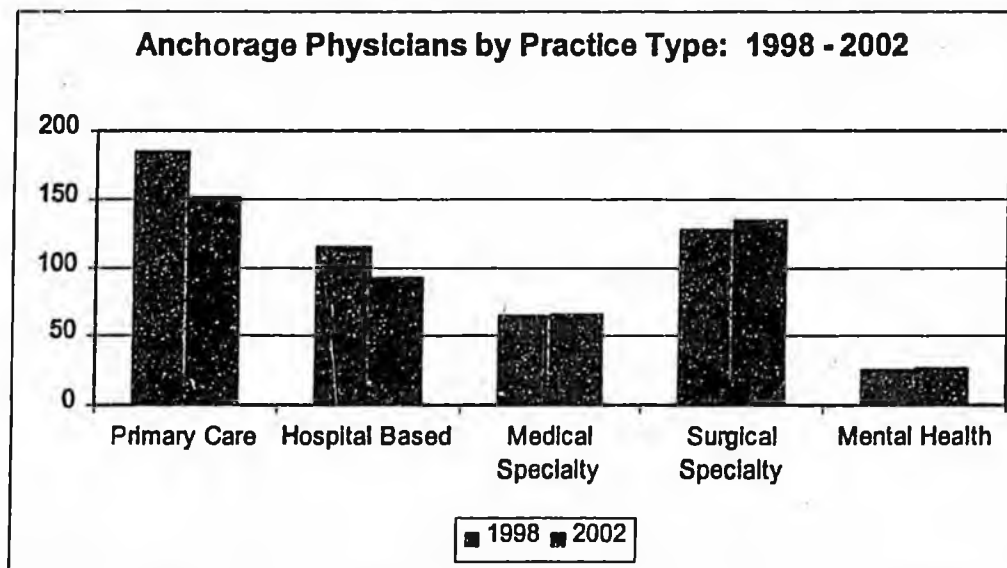
The number of Anchorage primary care providers has dropped from 184 in 1998 to 151 in 2002.

The number of hospital based providers has dropped from 114 in 1998 to 92 in 2002.

The number of medical specialist providers has increased from 64 in 1998 to 66 in 2002. There were 26 additional medical specialists not included because there was no 1998 comparison data available.

The number of surgical specialists has increased from 127 in 1998 to 135 in 2002. There were 6 additional surgical specialists not included because there was no 1998 comparison data available.

The number of mental health providers has increased from 25 in 1998 to 26 in 2002.



Primary Care: All were included.

Hospital Based: All were included.

Medical Specialty: Geriatric Medicine (1.75), Oncology/Radiation (1), Pain Management (5), Physical Medicine/Rehab (14), Preventive Medicine (3), and Sleep (1.6) for a total of 26.35 2002 Anchorage physicians were excluded because there was no 1998 data available.

Pediatric Specialty: All 14.75 2002 Anchorage physicians were excluded because there was no 1998 data available.

Surgery: Perinatology (2), Hand Surgery (1.75), and Pediatric Surgery (2) for a total of 5.75 Anchorage Physicians were excluded because there was no 1998 data available.

Mental Health: All were included.

Administration: All administrators were excluded because there was no 1998 data available.

Primary Care Providers:

Currently in the Anchorage community the following primary care specialties are above the national average benchmark:

- Family Practice

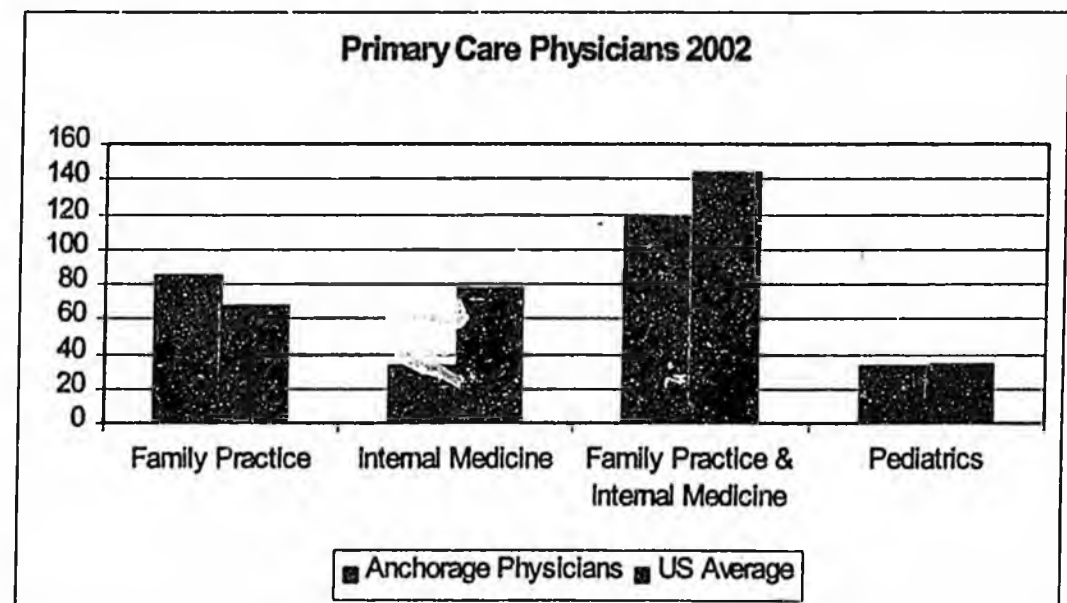
The following primary care specialties fall within the range or have less than a 20% provider deficit when compared to the US average benchmark:

- Pediatrics
- Family Practice & Internal Medicine Combined

The following primary care specialties show a 20% or greater provider deficit when compared to the US national average benchmark:

- General Internal Medicine

What may seem to be a surplus in Family Practitioners may make up for some of the apparent deficit of General Internal Medicine providers. This is why the combined number of family practitioners and internal medicine providers is included in the graph.



Hospital Based Providers:

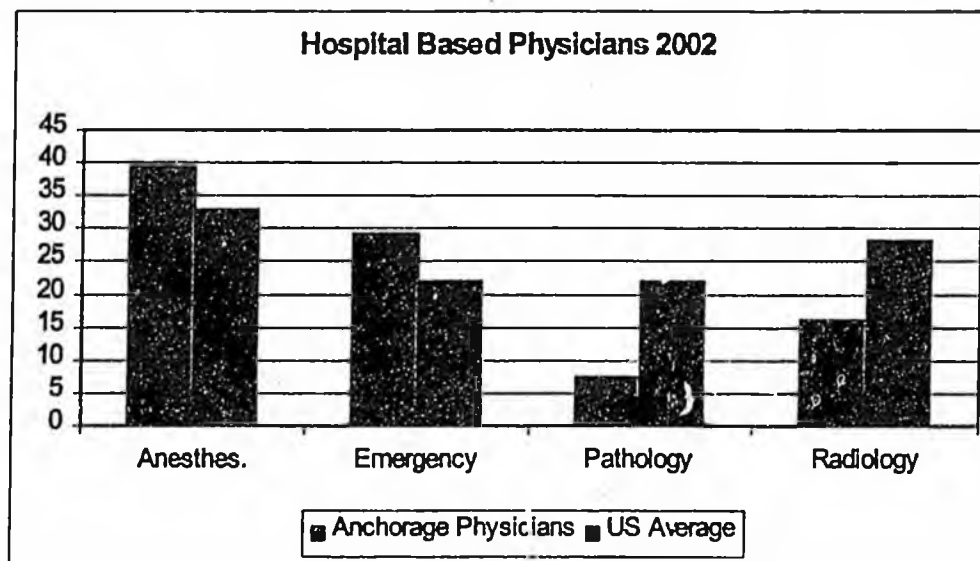
Currently in the Anchorage community the following hospital based specialties are above the national average benchmark:

- Anesthesiologists
- Emergency Medicine

The following hospital based specialties show a 20% or greater provider deficit when compared to the US national average benchmark:

- Pathology
- Radiology

Note: A large number of emergency medicine providers are needed due to Alaska's relatively young population and high number of accidents, as well as the lack of primary care providers.



Medical Specialists:

Currently in the Anchorage community the following medical specialties are above the national average benchmark:

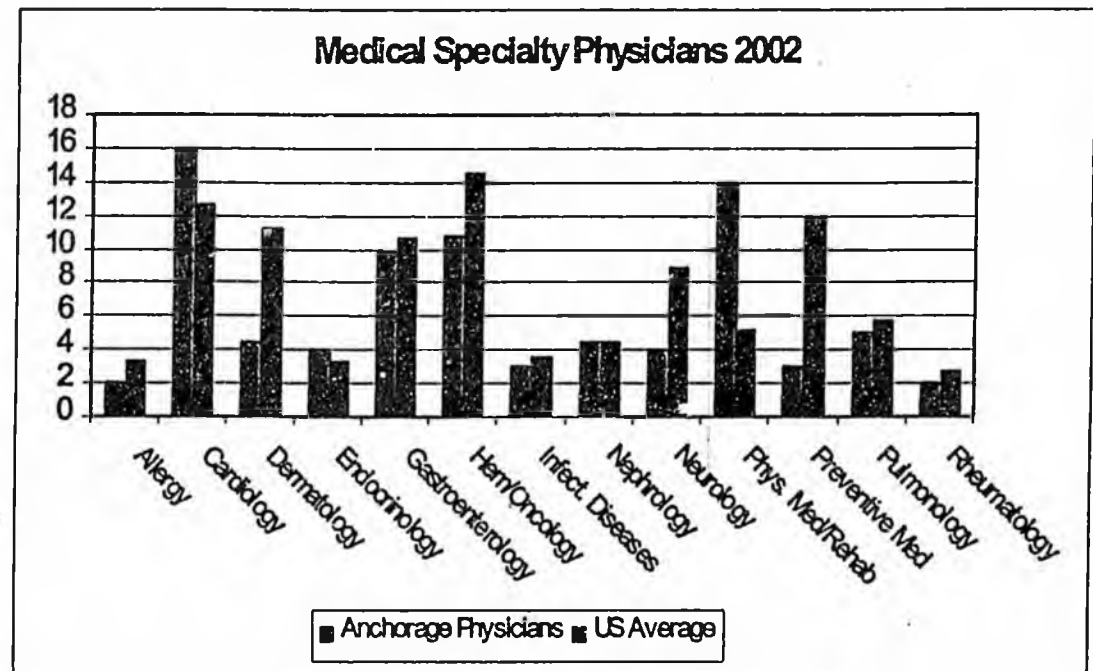
- Cardiology
- Endocrinology
- Nephrology
- Physical Medicine/Rehabilitation

The following medical specialists fall within the range or have less than a 20% provider deficit when compared to the US average benchmark:

- Gastroenterology
- Infectious Diseases
- Pulmonology

The following medical specialties show a 20% or greater provider deficit when compared to the US national average benchmark:

- Allergy / Immunology
- Dermatology
- Hematology/Oncology
- Neurology
- Preventive Medicine
- Rheumatology



The following Anchorage medical specialties were excluded in this graphical comparison because there were no available U.S. Benchmarks:

- Geriatric Medicine (1.75)
- Pain Management (5)
- Sleep (1.6)
- Radiation Oncology (1)

Pediatric Specialists:

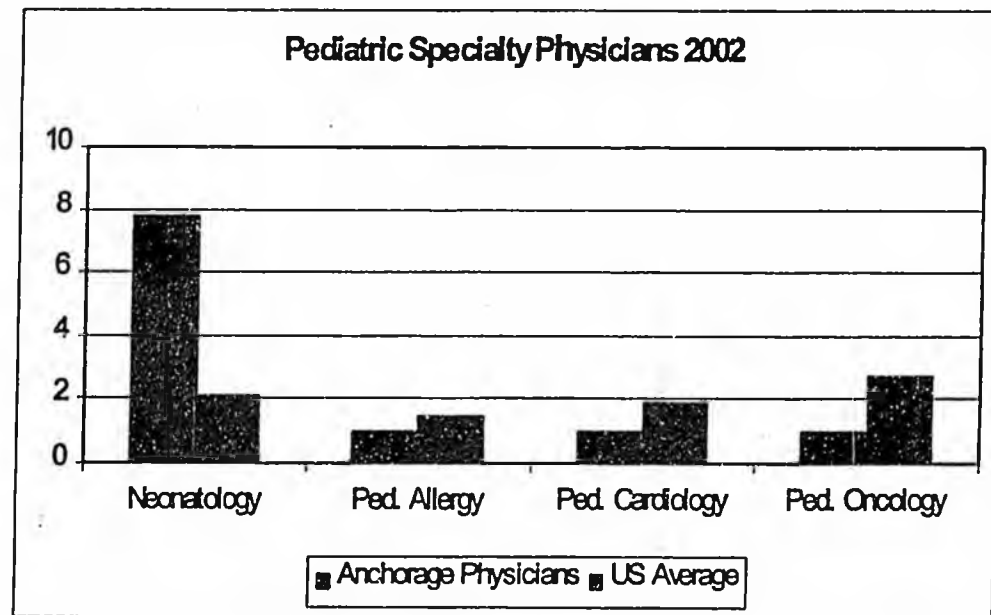
Currently in the Anchorage community the following pediatric specialties are above the national average benchmark:

- Neonatology

The following pediatric specialties show a 20% or greater provider deficit when compared to the US national average benchmark:

- Pediatric Allergy
- Pediatric Cardiology
- Pediatric Oncology

Note: A large number of neonatologists are needed to staff the only level 3 neonatal intensive care unit in Alaska.



The following Anchorage pediatric specialties were excluded in this graphical comparison because there were no available U.S. Benchmarks:

- Pediatric Pulmonology (1)
- Pediatric Neurodevelopment (2)
- Pediatric Intensive Care (1)

Surgical Specialists:

Currently in the Anchorage community the following surgical specialties are above the national average benchmark:

- Cardiac/Thoracic
- Orthopedics
- Plastic Surgery

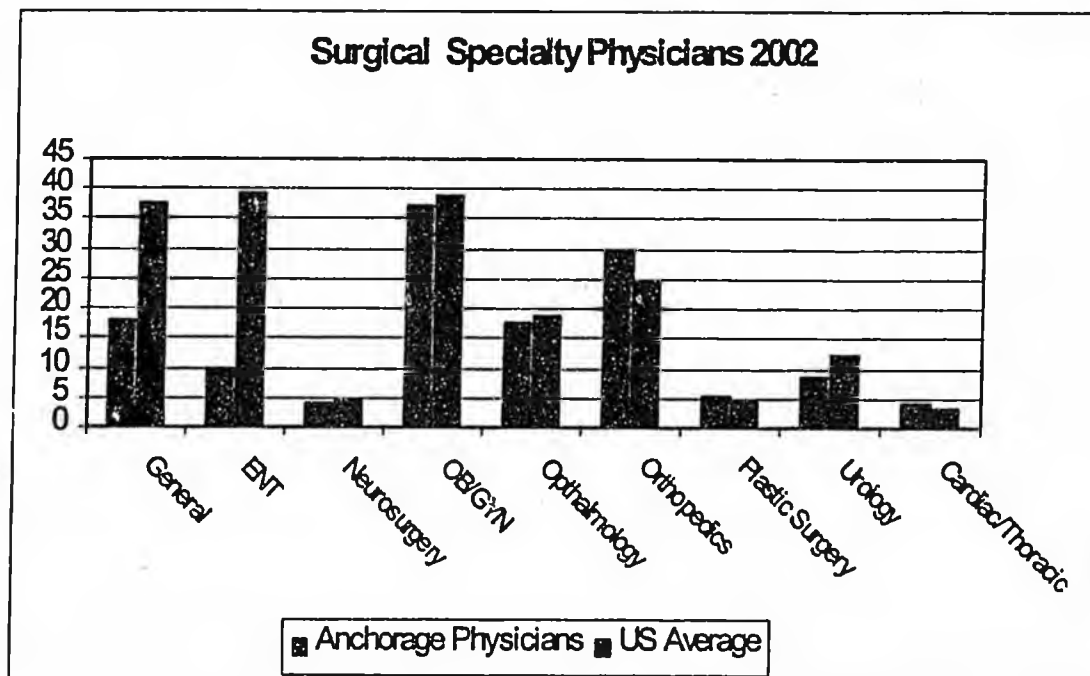
The following surgical specialties fall within the range or have less than a 20% provider deficit when compared to the US average benchmark:

- Neurosurgery
- OB/GYN
- Ophthalmology

The following surgical specialties show a 20% or greater provider deficit when compared to the US national average benchmark:

- General Surgery
- ENT
- Urology

Note: A large number of orthopedics are needed because of the relatively young population and the large number of accidents.



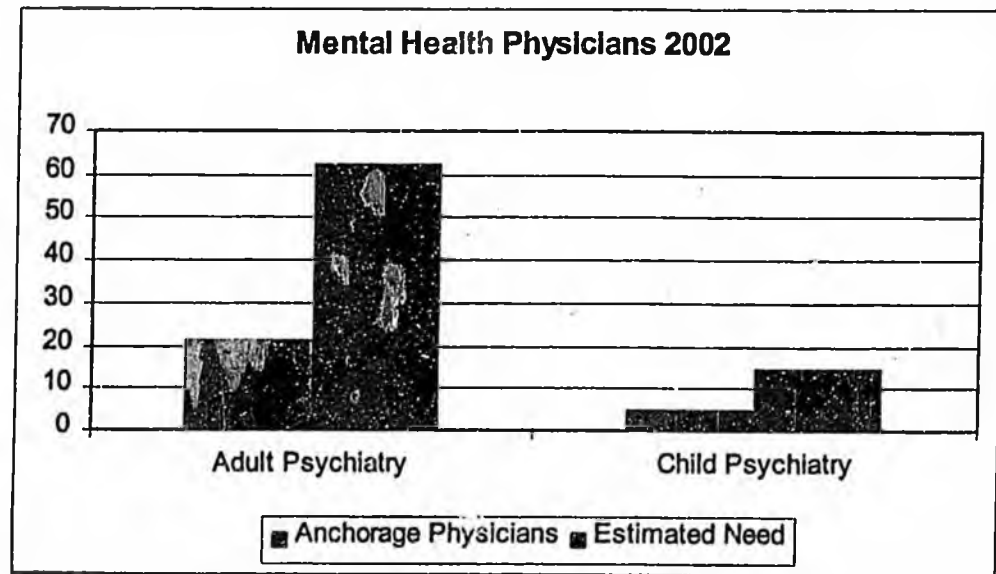
The following Anchorage surgical specialties were excluded in this graphical comparison because there were no available U.S. Benchmarks:

- Hand Surgery (1.75)
- Pediatric Surgery (2)
- Perinatology (2)

Mental Health Providers:

Currently in the Anchorage community the following mental health providers show a 20% or greater provider deficit when compared to the US national average benchmark.

- Adult Psychiatry
- Child Psychiatry



	Number of Anchorage Providers 2002	US Average	Provider Surplus/Deficit	Provider Deficit Percent	Category
Primary Care					
Family Practice	84.45	67.4	17.05	-	above
Internal Medicine	33.75	77	-43.25	56%	> 20% Deficit
*Subtotal (FP & IM)	118.2	144.4	-26.2	18%	< 20% Deficit
Pediatrics	33.25	34.6	-1.35	4%	< 20% Deficit
Primary Care Total	151.45	179	-27.55	15%	< 20% Deficit
Hospital Based					
Anesthesiology	39.5	32.8	6.7	-	above
Emergency	29.2	21.9	7.3	-	above
Pathology	7.5	21.9	-14.4	66%	> 20% Deficit
Radiology	16	28.1	-12.1	43%	> 20% Deficit
Hospital Based Total	92.2	104.7	-12.5	12%	< 20% Deficit
Medical Specialty					
Allergy / Immunology	2	3.3	-1.3	40%	> 20% Deficit
Cardiology	16	12.7	3.3	-	above
Dermatology	4.5	11.2	-6.7	60%	> 20% Deficit
Endocrinology	4	3.3	0.7	-	above
Gastroenterology	10	10.6	-0.6	6%	< 20% Deficit
Hematology/Oncology	10.75	14.6	-3.85	26.40%	> 20% Deficit
Oncology / Radiation	1	-	-	-	-
Infectious Diseases	3	3.6	-0.6	17%	< 20% Deficit
Nephrology	4.5	4.4	0.1	-	above
Neurology	4	8.9	-4.9	55%	> 20% Deficit
Physical Medicine / Rehab	14	5.2	8.8	-	above
Preventive Medicine	3	11.9	-8.9	75%	> 20% Deficit
Pulmonology	5	5.8	-0.8	14%	< 20% Deficit
Rheumatology	2	2.8	-0.8	29%	> 20% Deficit
Geriatric Medicine	1.75	-	-	-	-
Pain Management	5	-	-	-	-
Sleep	1.6	-	-	-	-
Medical Specialty Total	92.1 (82.75)*	98.3	-15.55	16%	< 20% Deficit

*Although there are currently 92.1 medical specialists practicing in Anchorage, 82.75 was for comparison with the US average because there were no available US average benchmarks for the other 9.35 medical specialists.

	Number of Anchorage Providers 2002	US Average	Provider Surplus/Deficit	Provider Deficit Percent	Category
Pediatric Specialists					
Neonatology	7.75	2.1	5.65	-	above
Pediatric Allergy	1	1.5	-0.5	33%	> 20% Deficit
Pediatric Cardiology	1	1.9	-0.9	47%	> 20% Deficit
Pediatric Oncology	1	2.7	-1.7	63%	> 20% Deficit
Pediatric Pulmonology	1	-	-	-	-
Pediatric Neurodevelopment	2	-	-	-	-
Pediatric Intensive Care	1	-	-	-	-
Pediatric Specialty Total	14.75 (10.75)*	8.2	2.55	-	above
Surgical Specialists					
General Surgery	18	37.8	-19.8	52%	> 20% Deficit
ENT	10	39.3	-29.3	75%	> 20% Deficit
Neurosurgery	4	4.3	-0.3	7%	< 20% Deficit
OB/GYN	37.25	38.9	-1.65	4%	< 20% Deficit
Perinatology	2	-	-	-	-
Ophthalmology	17.5	18.7	-1.2	6%	< 20% Deficit
Orthopedics	30	24.6	5.4	-	above
Hand Surgery	1.75	-	-	-	-
Plastic Surgery	5.25	4.4	0.85	-	above
Urology	8.75	12.3	-3.55	29%	> 20% Deficit
Vascular/Cardiac/Thoracic	4	3.3	0.7	-	above
Pediatric Surgery	-	-	-	-	-
Surgical Specialty Total	134.75	183.6	-48.85	27%	> 20% Deficit
Medical Specialists					
Psychiatry	-	62.4	-41.25	66%	> 20% Deficit
Psychology	-	14.6	-9.6	66%	> 20% Deficit
Medical	-	77	-50.85	66%	> 20% Deficit

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Specialists practicing in Anchorage, 10.75 was for comparison with the average benchmarks for the other 4 pediatric specialists.

Specialists practicing in Anchorage, 134.75 was for comparison with the average benchmarks for the other 5.75 surgical specialists.

Primary Care Providers:

- Overall, Anchorage currently is drastically lacking adult primary care providers for internists.
- Family physicians are making up for some of the deficit of internists. There needs to be a focus in this area because it is affecting EMTALA and access to care.

Hospital Based Providers:

- Currently, Anchorage seems to have an adequate supply of physicians practicing anesthesiology and emergency medicine.
- There is a potential provider need or opportunity for physicians practicing pathology and radiology.

Medical Specialists:

- Currently, Anchorage seems to have an adequate supply of physicians practicing cardiology, endocrinology, nephrology, and physical medicine/rehab.
- There is a potential provider need or opportunity for physicians practicing in allergy/immunology, dermatology, gastroenterology, hematology/oncology, infectious diseases, neurology, preventive medicine, pulmonology, and rheumatology in Anchorage.
- This need is very critical in some of these areas.
- There were no available U.S. benchmarks to determine whether there is a potential provider need for physicians practicing geriatric medicine, pain management, radiation oncology, and sleep medicine.

Pediatric Specialists:

- Currently, Anchorage seems to have an adequate supply of neonatologists.
- There is a potential provider need or opportunity for physicians practicing pediatric allergy, pediatric cardiology, and pediatric oncology in Anchorage.
- There were no available U.S. benchmarks to determine whether there is a potential provider need for physicians practicing pediatric pulmonology, pediatric neurodevelopment, and pediatric intensive care in Anchorage.

Surgical Specialists:

- Currently, Anchorage seems to have an adequate supply of physicians practicing cardiac/thoracic surgery, orthopedic surgery, and plastic surgery.
- There is a potential provider need or opportunity for physicians practicing neurosurgery, OB/GYN, ophthalmology, general surgery, ENT, and urology.

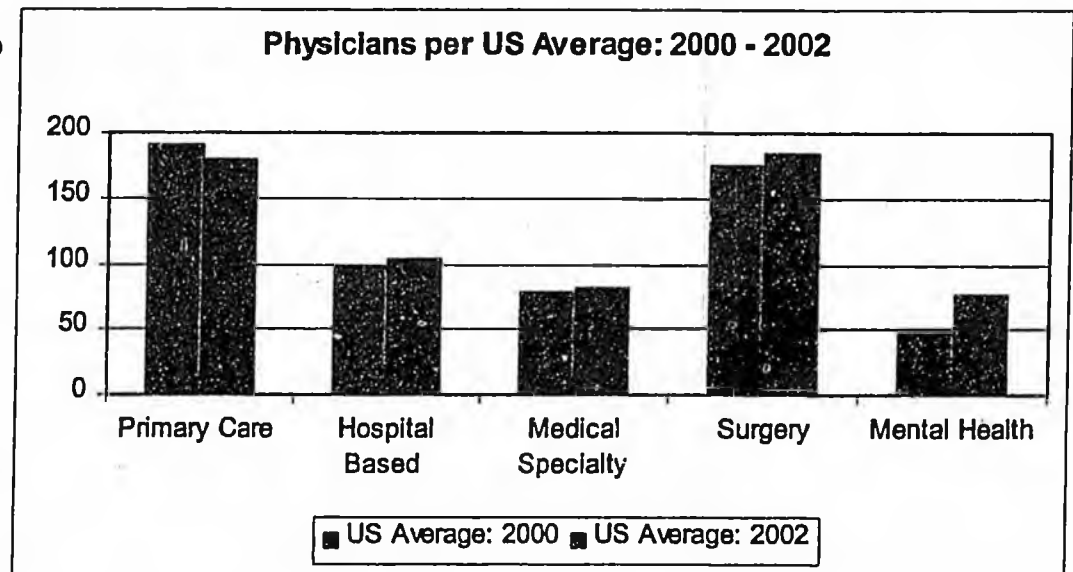
Mental Health Providers:

- There is a potential provider need or opportunity for physicians practicing in adult psychiatry and child psychiatry.

US Average Benchmarks Comparison:

The Physicians per US average benchmarks for the Anchorage area population have changed from 2000 to 2002 as shown in the graph to the right.

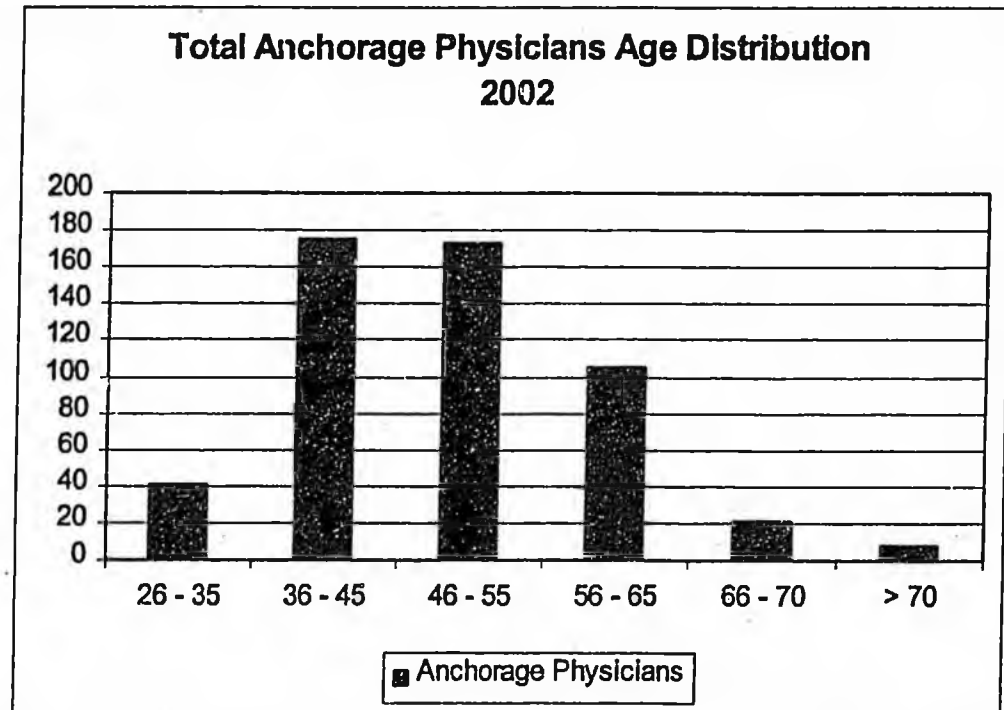
- The overall primary care US average benchmark has decreased from 190 in 2000 to 179 in 2002.
- The overall hospital based US average benchmark has increased from 97 in 2000 to 104.7 in 2002.
- The overall medical specialty US average benchmark has slightly increased from 78.6 in 2000 to 81.2 in 2002.
- The overall surgery US average benchmark has increased from 174.8 in 2000 to 183.6 in 2002.
- The overall mental health US average benchmark has increased from 47 in 2000 to 77 in 2002.



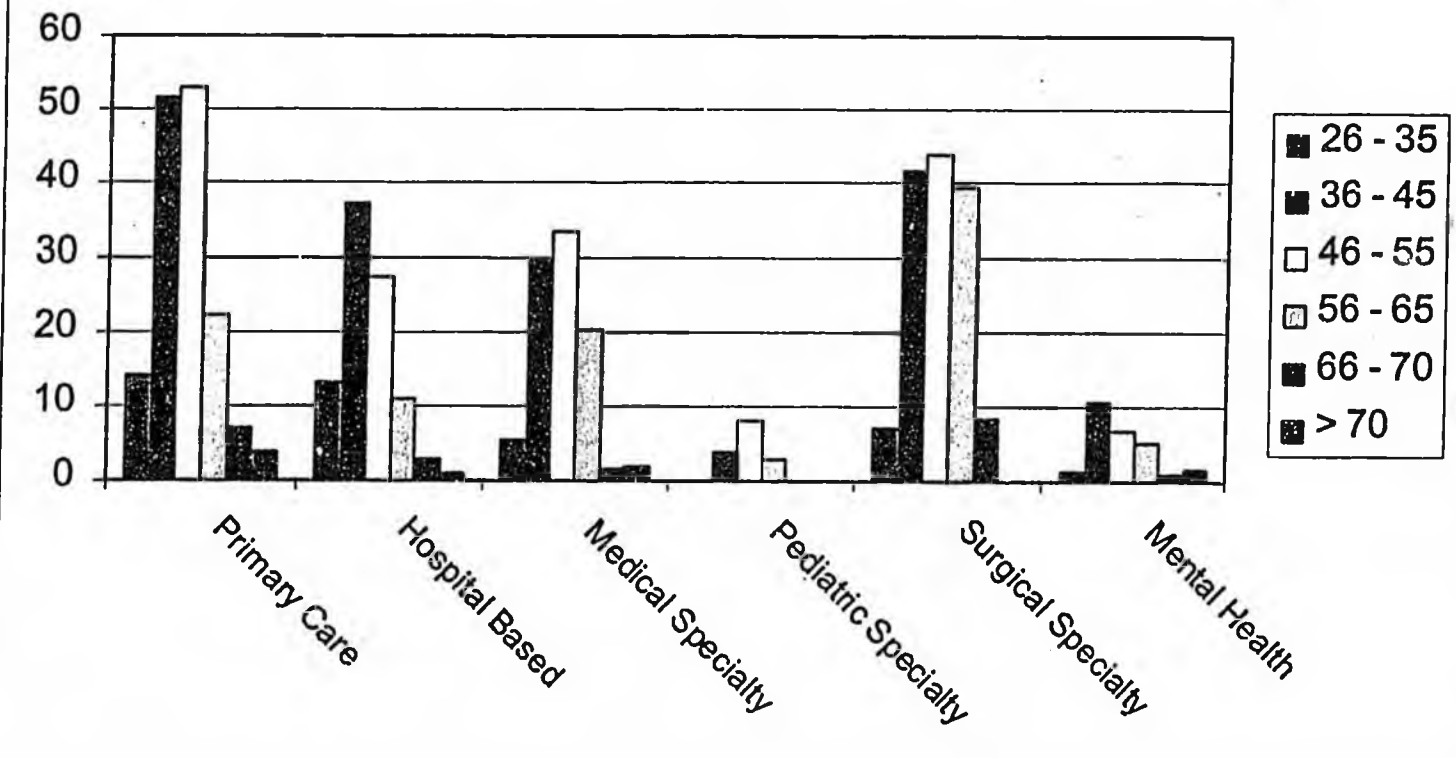
Age of Anchorage Physicians:

The current age distribution of the 524.85 Anchorage physicians (adjusted for time spent practicing) is shown in the graph to the right.

- 7.8% of the Anchorage physicians are between the ages of 26 and 35 years old.
- 33.5% of the Anchorage physicians are between the ages of 36 and 45 years old.
- 33% of the Anchorage physicians are between the ages of 46 and 55 years old.
- 20% of the Anchorage physicians are between the ages of 56 and 65 years old.
- 4.1% of the physicians are between the ages of 66 and 70 years old and 1.6% over 70 years old.
- 25.7% of the physicians are over 55 years old and 5.7% of the physicians are over 65 years old.

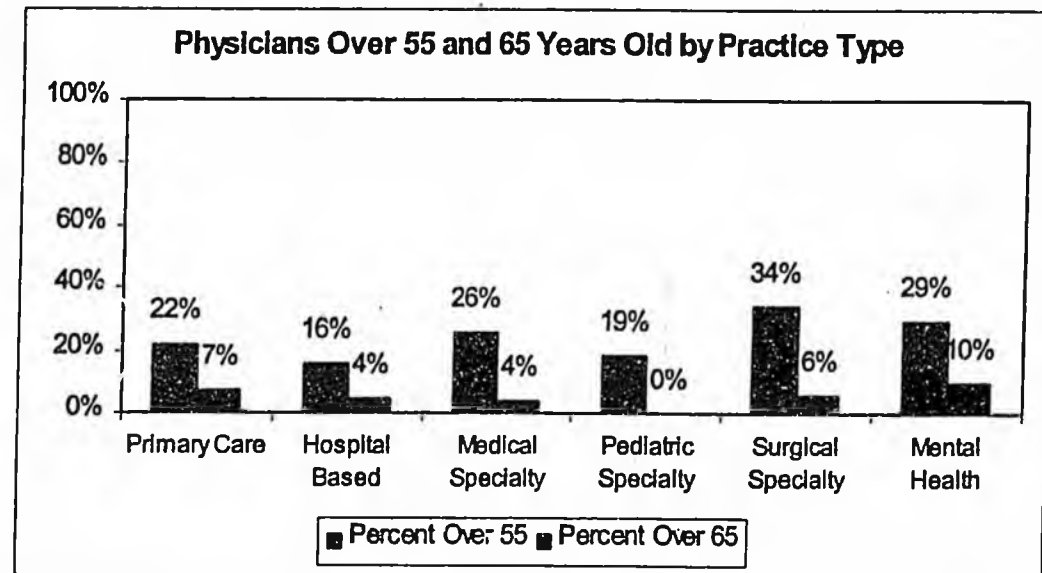


Physicians by Practice Age Distributions 2002



Physicians Over 55 and 65 Years Old:

- 22% of the Anchorage primary care physicians are over 55 years old. This includes the 7% that are over 65 years old.
- 16% of the Anchorage hospital based physicians are over 55 years old. This includes the 4% that are over 65 years old.
- 26% of the Anchorage medical specialty physicians are over 55 years old. This includes the 4% that are over 65 years old.
- 19% of the Anchorage pediatric specialty physicians are over 55 years old. There are no pediatric specialists over 65 years old.
- 34% of the surgical specialty physicians are over 55 years old. This includes the 6% that are over 65 years old.
- 29% of the mental health physicians are over 55 years old. This includes the 10% that are over 65 years old.



Population Growth Projections:

	1998	2003	2008	2013
Alaska	621,400	656,150	693,018	733,852
Anchorage	258,782	269,567	279,707	289,528

While not considered one of the fastest growing states in the US, Alaska's population growth is relatively constant with nearly half of the state population residing in the municipality of Anchorage.

The death rate for Alaska is consistently about half the national average, and the infant mortality rate is decreasing for both Alaska and the US. Currently, the infant mortality rate for Alaska is below the national average.

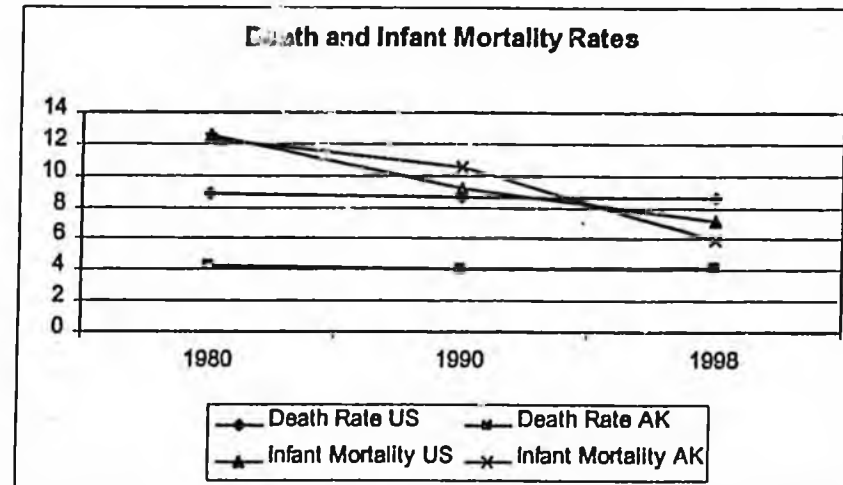
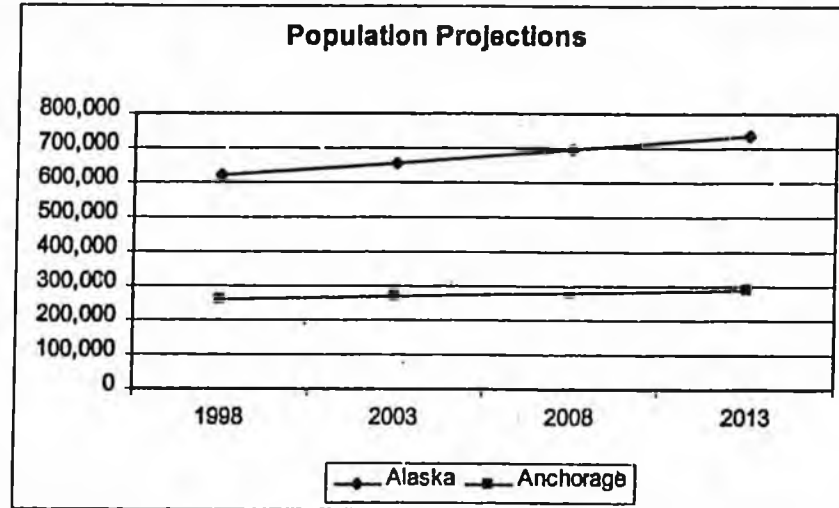
Historical Death Rate:

	1980	1990	1998
US	8.8	8.6	8.6
Alaska	4.3	4.0	4.2

Historical Infant Mortality Rate:

	1980	1990	1998
US	12.6	9.2	7.2
Alaska	12.3	10.5	5.9

Death rate, and infant mortality rates are fundamental statistics in the evaluation of the general health of a population.



*Death rate per 1,000 population

*Infant mortality rate per 1,000 live births

Sources: Alaska Dept. of Labor 1998, Statistical Abstract of the United States 2001

Death Rate by most Common Cause:

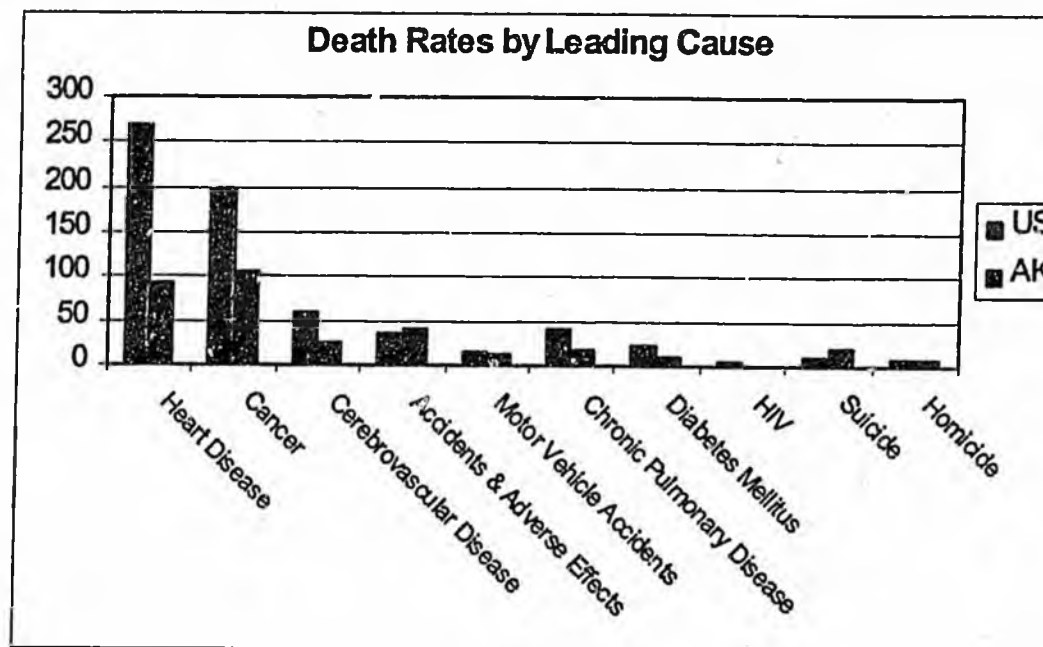
Cause	US	AK
Heart Disease	268.2	91.9
Cancer	200.3	106
Cerebro Vas D.	58.6	24.9
Accidents & Adv.	36.2	40.9
MV Accidents	16.1	11.7
Chronic Pulm D.	41.7	18.2
Diabetes	24	10.4
HIV	5	—
Suicide	11.3	21
Homicide	6.8	8

The Potential Need for Providers:

Deaths caused by accidents and other adverse effects are higher than the US average, which may suggest a greater need for ER, Ortho, and Trauma surgeons.

Alaska death rates caused by heart disease, cancer, cerebrovascular disease, chronic obstructive pulmonary disease, diabetes, and HIV are lower than the average of the United States. This suggests a diminished need for physicians with specialties of cardiology, hematology/oncology, pulmonology, and infectious diseases.

Alaska death rates caused by suicide is higher than the US average, which may suggest a greater need for mental health professionals.



*Deaths per 100,000 resident population

*HIV estimate for AK did not meet publishing standards

Source: Statistical Abstract of the United States, 2001

Alaska Population by Age:

Alaska has a higher percentage of young people under the age of 18 than the national average of the United States. Individuals under the age of 18 in the United States make up 25.7% of the population, while those under the age of 18 in Alaska make up 30.4% of the total population and 29.1% of the population in Anchorage.

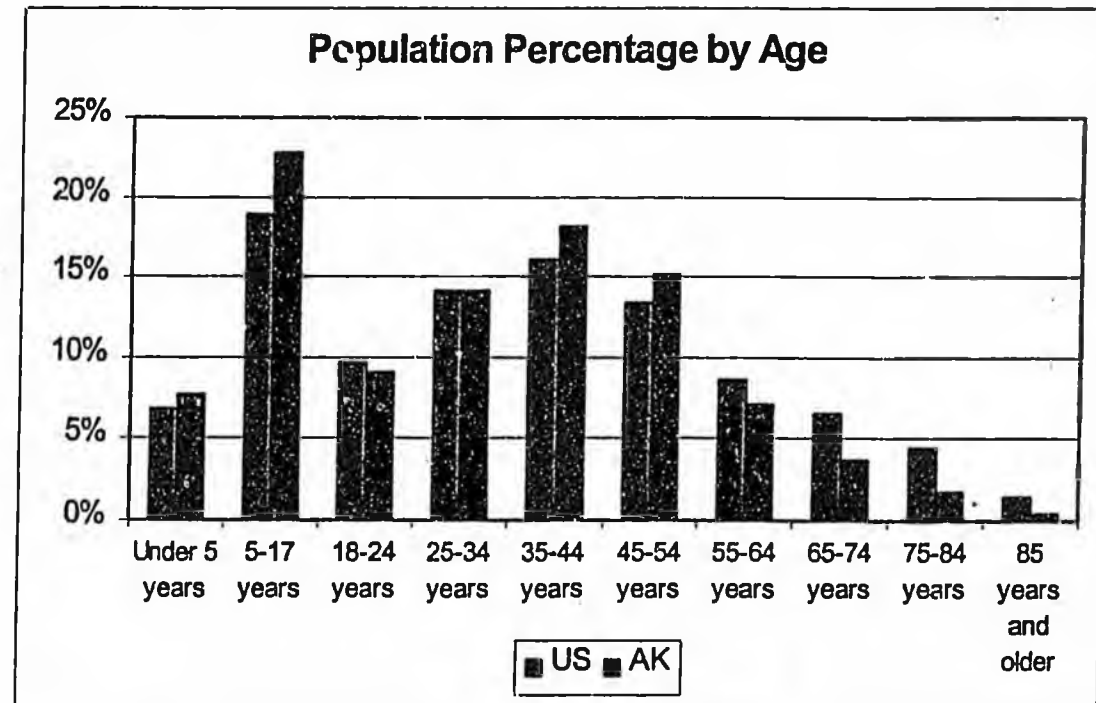
- This may suggest a greater need for pediatric providers.
- This may also suggest a greater need for orthopedic providers, as this population is more active.

Alaska has a significantly lower population of adults beyond the age of 55 than does the national average of the United States.

- This may suggest a decreased need for providers of older age diseases, such as cardiology, general surgery, etc.

Individuals over that age of 65 in the United States make up 12.4% of the population, while those over the age of 65 in the state of Alaska make up only 5.7% of the total population and 5.5% of the population in Anchorage. Alaska has the smallest senior population in the United States.

Life expectancy for Alaskans is 74.2 years, which is 1.6 years below the national average.



Source: Statistical Abstract of the United States, 2001

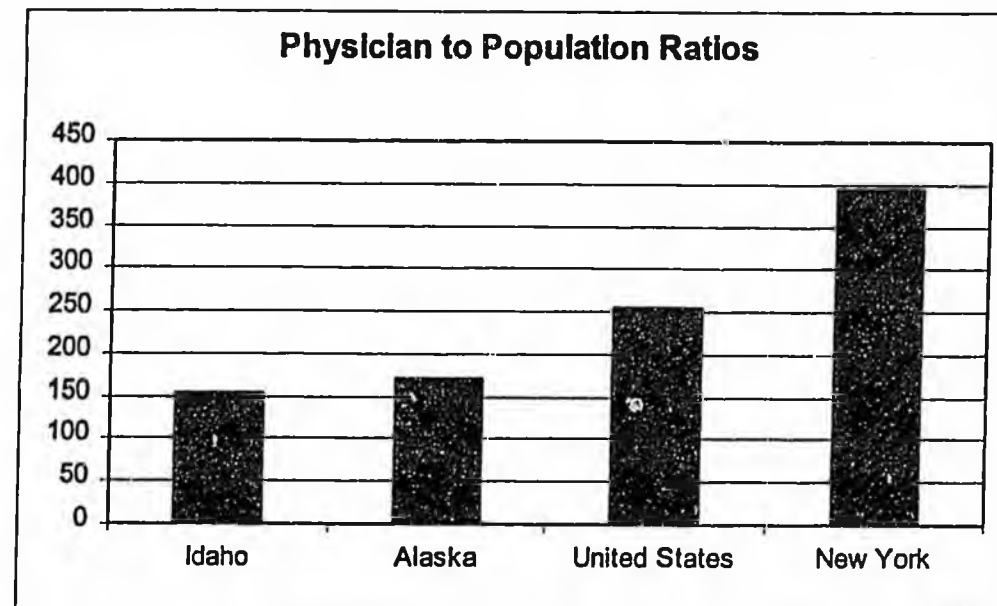
Physician to Population Ratios:

The United States has a physician ratio of 254 physicians per 100,000 resident population.

Alaska's physician ratio of 170 physicians per 100,000 resident population is the fourth smallest physician ratio in the United States. Alaska's physician ratio is 84 below the national average.

Idaho has the smallest physician ratio of 155 physicians per 100,000 resident population. Alaska physician ratio is only 15 above the smallest physician ratio in the United States.

New York has the largest physician ratio of 395 physicians per 100,000 resident population. New York's physician ratio is more than twice Alaska's physician ratio, which is 225 physicians per 100,000 resident population below New York.



*Physician ratio is the number of physicians per 100,000 resident population.

*Federally-employed persons and physicians with addresses unknown are excluded.

Source: Statistical Abstract of the United States, 2001

About the Surveys

The Institute for Circumpolar Health Studies was commissioned to distribute the 55 and older physician survey to the non-federally employed Anchorage physicians age 55 and older and the practice manager survey to the office managers of physician practices in the Anchorage area. The Committee worked with Circumpolar Health to develop the questions and the areas to be covered. The surveys were distributed around July 10, 2002 and the physicians and practice managers had until August 10, 2002 to return their surveys.

55 and Older Physician Survey Questions

- Are you a single practitioner?
- If you are in a group practice, what is the size of your group?
- Are you still practicing full-time?
- If no, how many hours are you practicing?
- Do you plan to reduce your hours in the next 3 years?
- If yes, how many hours do you plan to work?
- How many years do you plan to practice in Anchorage?
- Do you feel that your specialty is now under-represented in Anchorage?
- If you cut back or retire will it then be under-represented?
- What specialties in Anchorage do you feel are presently under-represented?

Practice Manager Survey Questions

- Is your practice recruiting new physicians?
- If yes, for what specialty?
- Have you already recruited new physicians who are not yet practicing?
- If yes, how many?
- If yes, in what specialties?
- If you have recruited in the last year, was it an addition or a replacement?
- For the physicians in your practice please note the percent of their time that they are seeing patients in primary care and the percent of their time that they are seeing patients in specialty care.
- Do you feel that the specialties (including primary care) represented by your physicians are under-represented in Anchorage?
- What specialties do you feel are under-represented in Anchorage?
- How long does a patient have to wait to get an appointment?

There were 134 of the 55 and older physician surveys distributed with 49 returned. There were 166 of the practice manager surveys distributed with 50 of them returned. This results in a 37% response rate for the 55 and older physician survey and a 30% response rate for the practice manager survey.

55 and Older Physician Survey Results

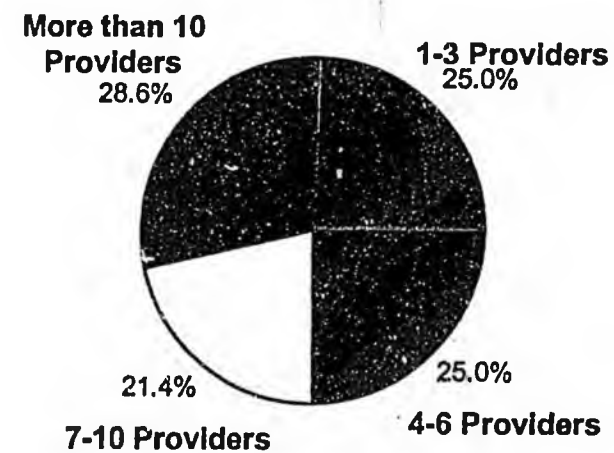
Question 1: Are you a single practitioner?

Of the 49 survey respondents, 48 answered this question with 20 (41.7%) indicating that they are a single practitioner and 28 (58.3%) indicating that they are in a group practice.



Question 2: If you are in a group practice, what is the size of the group?

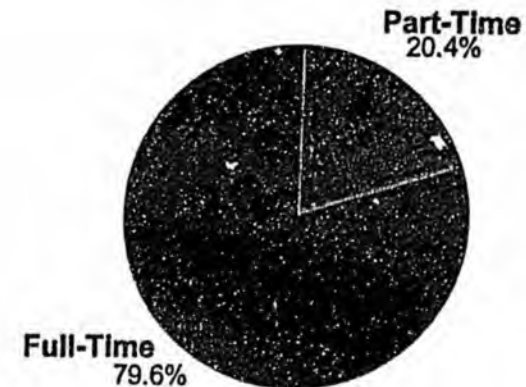
Of the 28 that indicated they are in a group practice, 7 (25.0%) are in a group with 1-3 providers, 7 (25.0%) are in a group with 4-6 providers, 6 (21.4%) are in a group with 7-10 providers, and 8 (28.6%) are in a group with more than 10 providers.



55 and Older Physician Survey Results

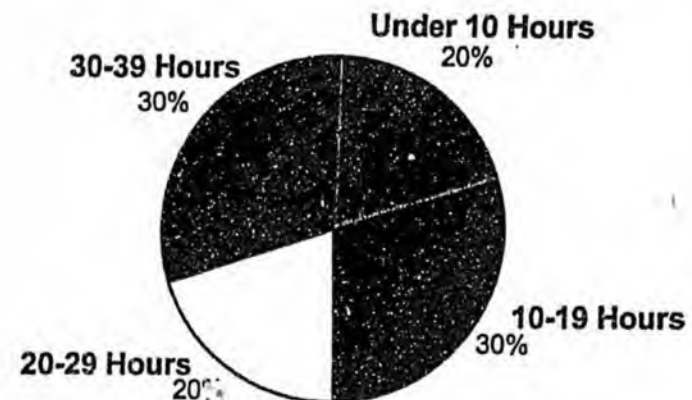
Question 3: Are you still practicing full-time?

Of the 49 survey respondents, 39 (79.6%) indicated that they are still practicing full-time and 10 (20.4%) indicated that they are not practicing full-time.



Question 4: If no, how many hours are you practicing?

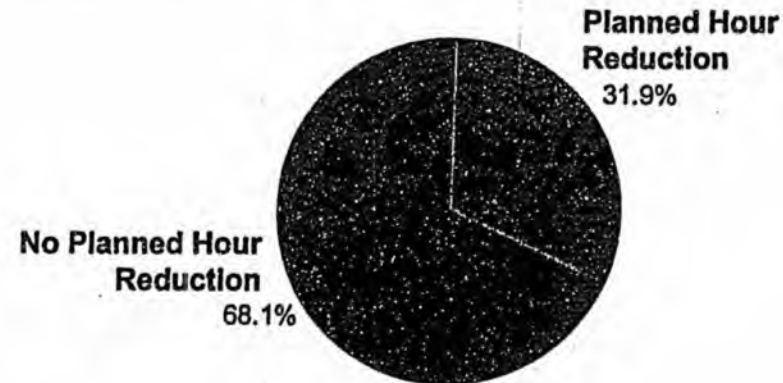
Of the 10 survey respondents that indicated they are not practicing full-time, 2 (20%) are practicing under 10 hours, 3 (30%) are practicing 10-19 hours, 2 (20%) are practicing 20-29 hours, and 3 (30%) are practicing 30-39 hours. The average number of hours practiced by the 10 that indicated they are not working full-time is 18.8 hours.



55 and Older Physician Survey Results

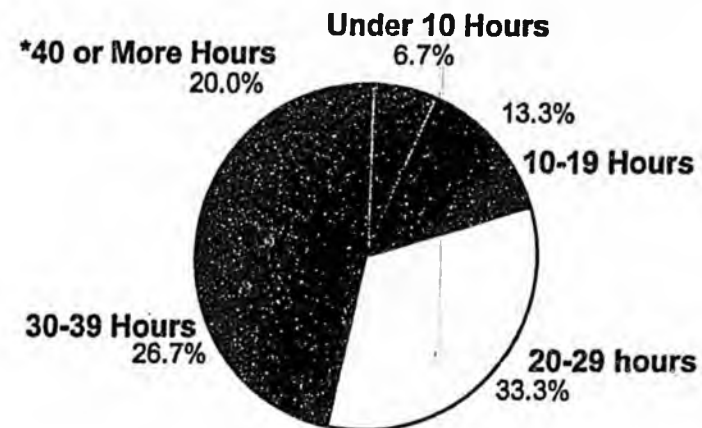
Question 5: Do you plan to reduce your hours in the next 3 years?

Of the 49 survey respondents, 47 answered this question with 15 (31.9%) indicating that they plan to reduce their hours in the next 3 years and 32 (68.1%) indicating that they do not plan to reduce their hours in the next 3 years.



Question 6: If yes, how many hours do you plan to work?

Of the 15 survey respondents that indicated they are planning to reduce their hours in the next 3 years, 1 (6.7%) plans to work under 10 hours, 2 (13.3%) plan to work 10-19 hours, 5 (33.3%) plan to work 20-29 hours, 4 (26.7%) plan to work 30-39 hours, and 3 (20%) plan to work 40 or more hours. The average number of work hours planned for those respondents who plan to reduce their hours in the next 3 years is 25.8 hours.

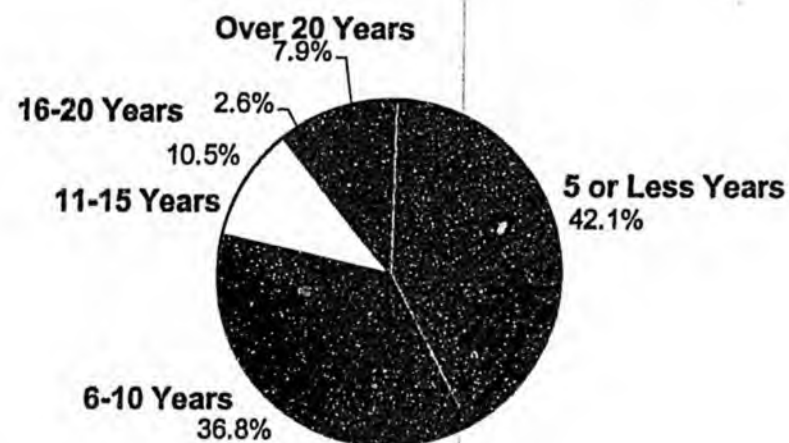


*The Physicians that indicated they plan to reduce their hours to 40 or more hours in the next 3 years are already working well over 40 hours per week and will continue to work over 40 hours after their planned hour reduction.

55 and Older Physician Survey Results

Question 7: How many years do you plan to practice in Anchorage?

Of the 49 survey respondents, 38 answered this question with 16 (42.1%) indicating they plan to practice for five or less years, 14 (36.8%) planning to practice 6-10 years, 4 (10.5%) planning to practice 11-15 years, 1 (2.6%) planning to practice 16-20 years, and 3 (7.9%) planning to practice over 20 years in Anchorage. The average number of years these physicians plan to practice in Anchorage is 9.7 years.



55 and Older Physician Survey Results

Question 8: Do you feel that your specialty is now under-represented in Anchorage?

Of the 49 survey respondents, 48 answered this question with 16 (33.3%) indicating that they feel their specialty is currently under-represented in Anchorage and 32 (66.7%) indicating that they do not feel that their specialty is currently under-represented in Anchorage.



Question 9: If you cut back or retire will it then be under-represented?

Of the 49 survey respondents, 46 answered this question with 17 (37%) indicating that if they cut back or retire that their specialty will be under-represented and 29 (63%) indicating that if they cut back or retire that their specialty will not be under-represented in Anchorage.



55 and Older Physician Survey Results

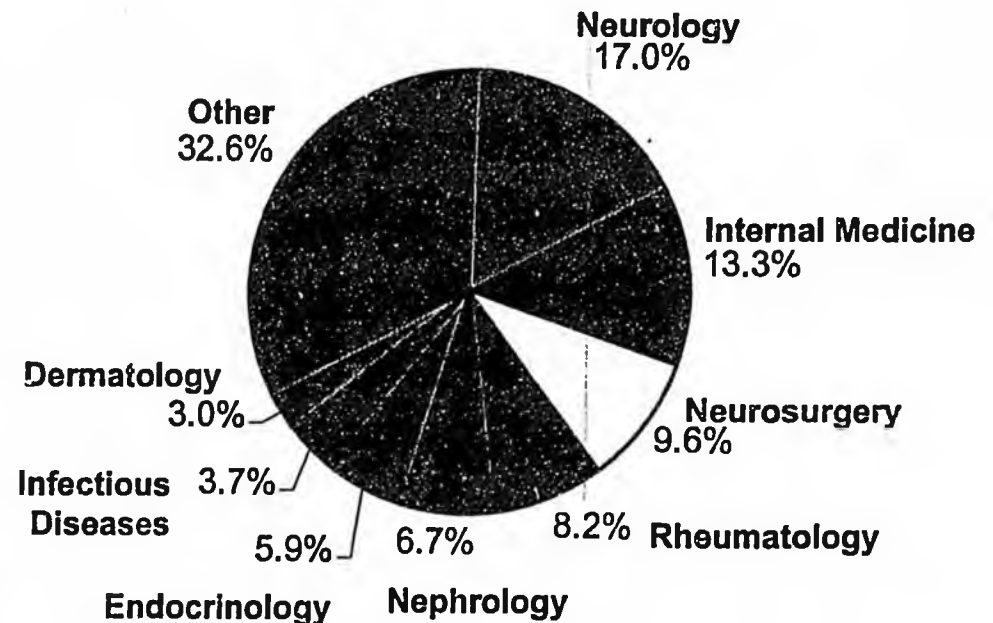
Question 10: What specialties in Anchorage do you feel are presently under-represented?

Greatest Perceived Under-Represented Specialties

Neurology (17.0%)
 Internal Medicine (13.3%)
 Neurosurgery (9.6%)
 Rheumatology (8.2%)
 Nephrology (6.7%)
 Endocrinology (5.9%)
 Infectious Diseases (3.7%)
 Dermatology (3.0%)

Other Perceived Under-Represented Specialties

Family Practice (2.2%)	Oncology (0.7%)
Gastroenterology (2.2%)	Orthopedics (0.7%)
Psychiatry (2.2%)	Pathology (0.7%)
Geriatric Medicine (1.5%)	Pediatric Neurology (0.7%)
Hand Surgery (1.5%)	Pediatric Neurosurgery (0.7%)
Pediatric Pulmonology (1.5%)	Pediatric Orthopedics (0.7%)
Pediatrics (1.5%)	Perinatology (0.7%)
Anesthesiology (0.7%)	Physicians in General (0.7%)
Colon/Rectal Surgery (0.7%)	Preventive Medicine (0.7%)
Critical Care (0.7%)	Radiation Oncology (0.7%)
Diabetes (0.7%)	Radiology (0.7%)
Hospitalists (0.7%)	Sleep (0.7%)
Intensivists (0.7%)	Urology (0.7%)





55 and Older Physician Survey Summary

- 79.6% of the 55 and older physicians surveyed are still practicing full-time.

- 31.9% noted that they plan to reduce their hours of practice in the next 3 years.

- The majority of these practitioners would then be working less than 25 hours per week.

- 42.1% of these practitioners plan to retire within 5 years and 36.8% within 10 years.

- 33% of the physicians felt that their specialty was already under-represented.

- 37% felt that their specialty would be under-represented when they retire or reduce their hours.

- The individual specialties that the surveyed physicians indicated were presently under-represented mirrored the data collected in this study.

Practice Manager Survey Results

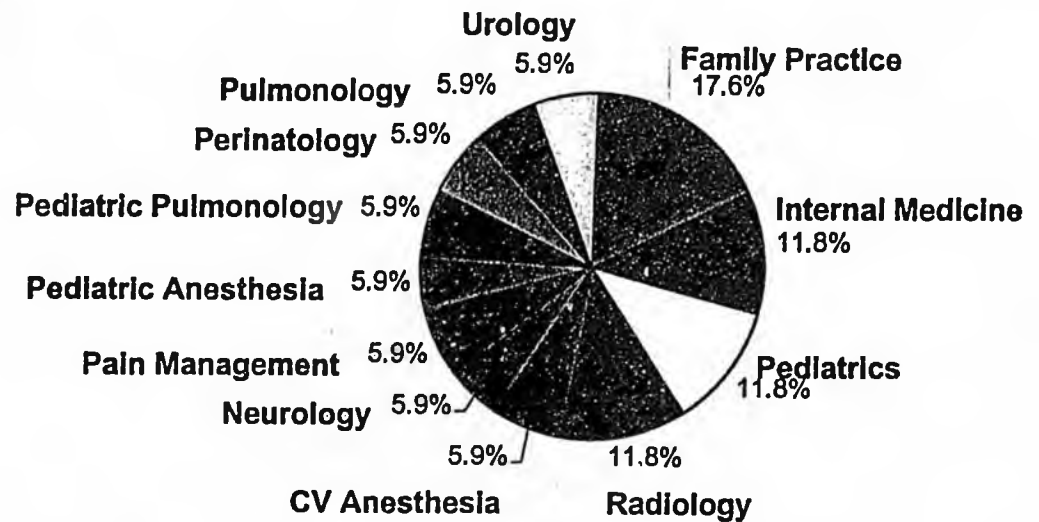
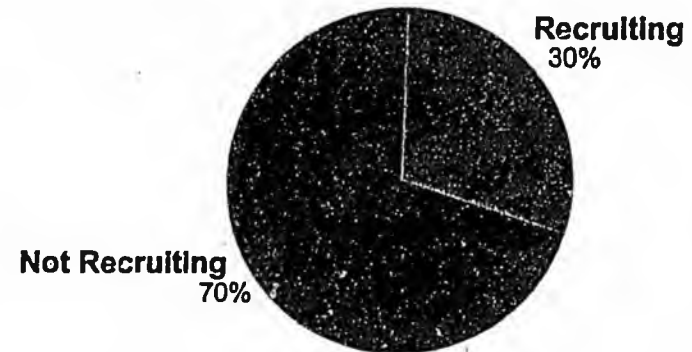
Question 1: Is your practice recruiting new physicians?

Of the 50 survey respondents, 15 (30%) indicated that their practice is recruiting new physicians and 35 (70%) indicated that their practice is not recruiting.

If yes, for what specialty?

The 15 practice managers that indicated they are recruiting are recruiting physicians in the specialties shown below. Two of the practice managers are recruiting for physicians in two different specialties. The number in front of the specialty refers to the number of practice managers that responded to the survey that are recruiting for physicians in that particular specialty.

- 3 Family Practice (17.6%)
- 2 Internal Medicine (11.8%)
- 2 Pediatrics (11.8%)
- 2 Radiology (11.8%)
- 1 CV Anesthesia (5.9%)
- 1 Neurology (5.9%)
- 1 Pain Management (5.9%)
- 1 Pediatric Anesthesia (5.9%)
- 1 Pediatric Pulmonology (5.9%)
- 1 Perinatology (5.9%)
- 1 Pulmonology (5.9%)
- 1 Urology (5.9%)



Practice Manager Survey Results

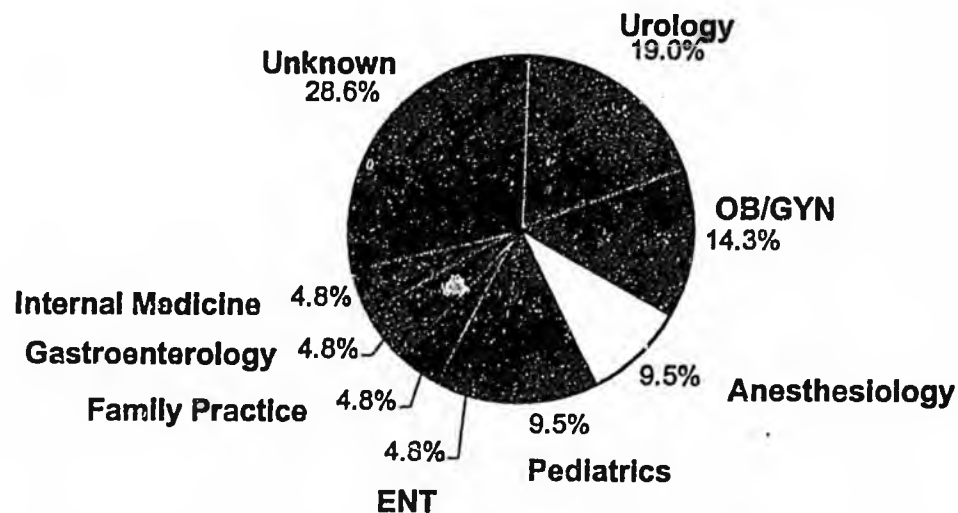
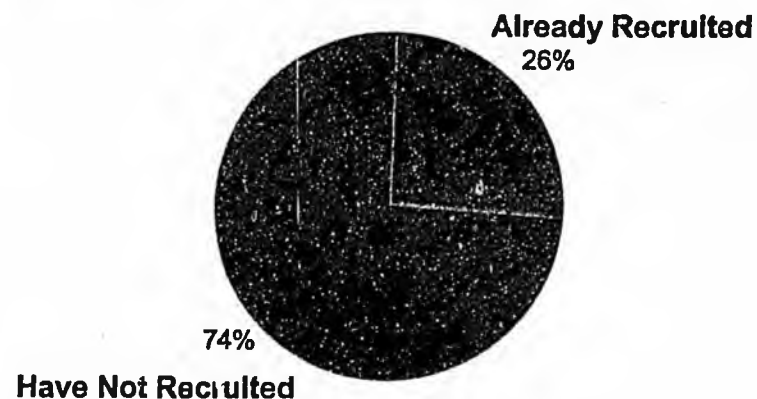
Question 2: Have you already recruited new physicians who are not yet practicing?

Of the 50 survey respondents, 13 (26%) indicated that they have already recruited new physicians who are not yet practicing and 37 (74%) have not already recruited physicians that are not yet practicing.

If yes, how many? If yes, in what specialties?

The 13 practice managers that indicated in the previous question that they have already recruited new physicians have recruited 21 new physicians who are not yet practicing. The specialties for 6 of these newly recruited physicians were not listed on the survey.

- 4 Urology (19.0%)
- 3 OB/GYN (14.3%)
- 2 Anesthesiology (9.5%)
- 2 Pediatrics (9.5%)
- 1 ENT (4.8%)
- 1 Family Practice (4.8%)
- 1 Gastroenterology (4.8%)
- 1 Internal Medicine (4.8%)
- 6 Unknown specialties (28.6%)



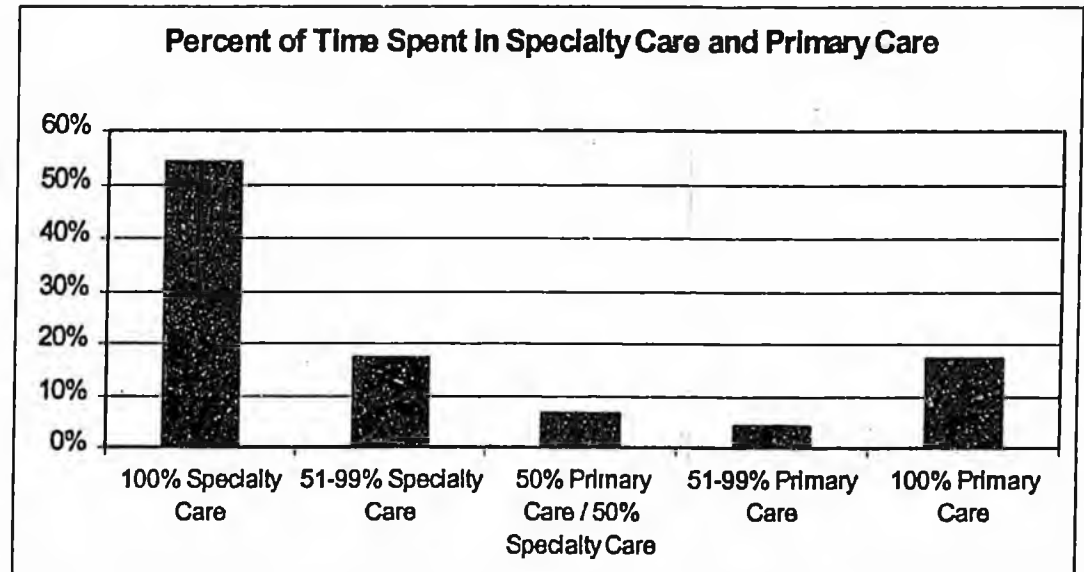
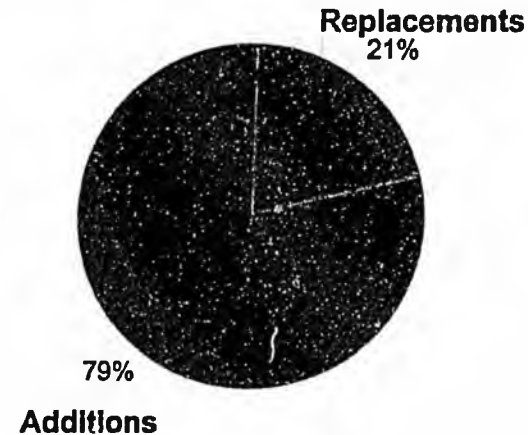
Practice Manager Survey Results

Question 3: If you have recruited in the last year, was it an addition or a replacement?

Of those that have recruited in the last year, 15 (78.9%) were additions and 4 (21.1%) were replacements.

Question 4: For the physicians in your practice please note the percent of their time that they are seeing patients in primary care and specialty care.

Of those 46 practice managers that answered this question, 25 (54.4%) indicated that the physicians in their practice see patients in specialty care 100% of the time, 8 (17.4%) indicated that the physicians in their practice see the majority of their patients in specialty care (51-99% of the time) with their remaining time seeing patients in primary care, 5 (6.5%) indicated that the physicians in their practice see patients 50% of their time in primary care and 50% of their time in specialty care, 2 (4.3%) indicated that the physicians in their practice see the majority of patients in primary care 51-99% of the time with the remaining in specialty care, and 8 (17.4%) indicated that the physicians in their practice see patients in primary care 100% of the time. 28.2% of the surveyed practice managers indicated that the physicians in their practice spend part of their time providing specialty care and part providing primary care. These specialists that are also providing primary care are partly filling in for the lack of primary care physicians in Anchorage.



Practice Manager Survey Results

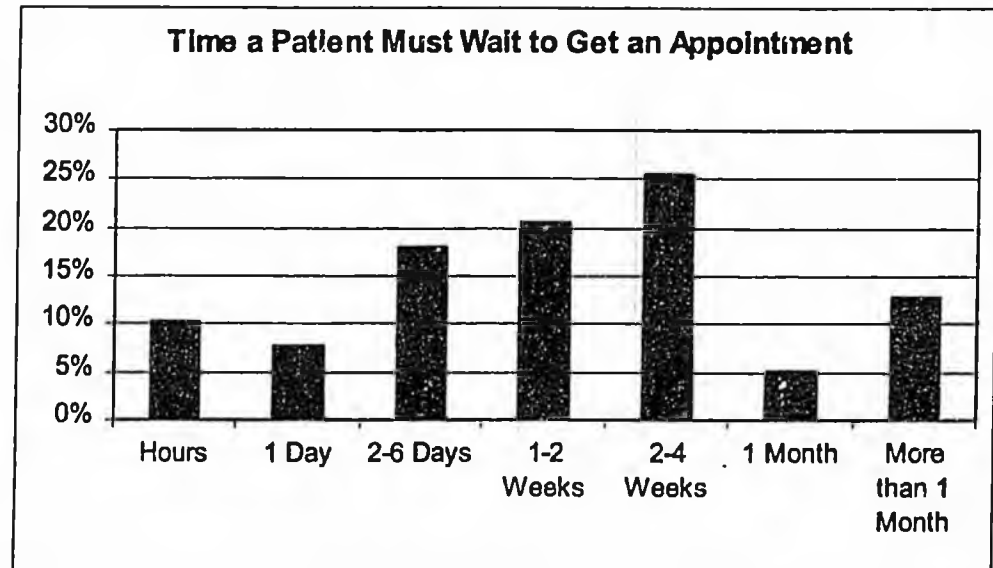
Question 5: Do you feel that the specialties (including primary care) represented by your physicians are under-represented in Anchorage?

Of the 45 practice managers that answered this question, 20 (44.4%) feel that their specialties are under-represented in Anchorage and 25 (56.6%) do not feel that their specialties are under-represented in Anchorage.



Question 7: How long does a patient have to wait to get an appointment?

Of the 39 practice managers that answered this question, 4 (10.3%) indicated that patients have to wait only hours to get an appointment, 3 (7.7%) indicated that patients have to wait 1 day to get an appointment, 7 (17.9%) indicated that patients have to wait 2-6 days to get an appointment, 8 (20.5%) indicated that patients have to wait 1-2 weeks (7-14 days) to get an appointment, 10 indicated that patients have to wait 2-4 weeks (15-28 days) to get an appointment, 2 (5.1%) indicated that patients have to wait one month to get an appointment, and 5 (12.8%) indicated that patients have to wait more than one month to get an appointment. The average amount of time that a patient must wait to get an appointment among the practice managers that answered this question is 18 days.



Practice Manager Survey Results

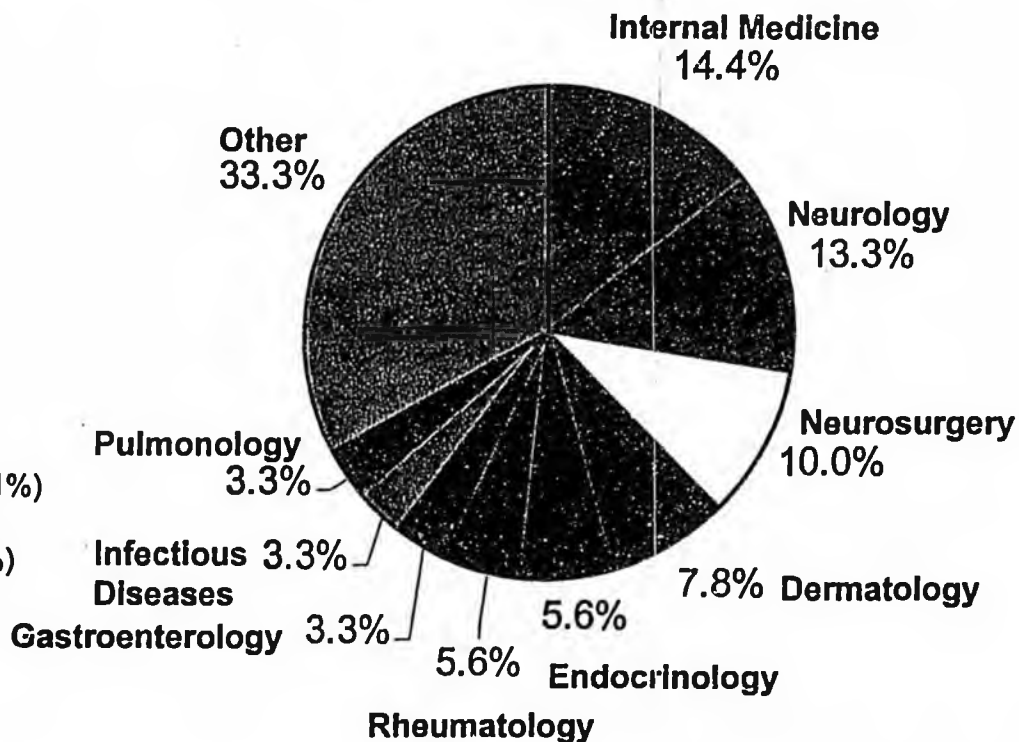
Question 6: What specialties do you feel are under-represented in Anchorage?

Greatest Perceived Under-Represented Specialties

Internal Medicine (14.4%)
 Neurology (13.3%)
 Neurosurgery (10.0%)
 Dermatology (7.8%)
 Endocrinology (5.6%)
 Rheumatology (5.6%)
 Gastroenterology (3.3%)
 Infectious Diseases (3.3%)
 Pulmonology (3.3%)

Other Perceived Under-Represented Specialties

Allergy (2.2%)	Pediatric Cardiac Surgery (1.1%)
Nephrology (2.2%)	Pediatric Dermatology (1.1%)
Pediatric Neurology (2.2%)	Pediatric Endocrinology (1.1%)
Psychiatry (2.2%)	Pediatric Intensivists (1.1%)
Anesthesiology (1.1%)	Pediatric Specialty (1.1%)
Burn Therapy (1.1%)	Pediatric Surgery (1.1%)
Family Practice (1.1%)	Pediatrics (1.1%)
Female Urology (1.1%)	Radiology (1.1%)
General Surgery (1.1%)	Rehab (1.1%)
Oncology (1.1%)	Specialty (1.1%)
Orthopedics (1.1%)	Surgery (1.1%)
Pain Management (1.1%)	Therapy (1.1%)
Pathology (1.1%)	Urology (1.1%)





Practice Manager Survey Summary

- 30% of the practice managers surveyed are presently recruiting for new physicians.
- 26% noted that they had recruited new physicians within the last year.
- The majority of these newly recruited physicians are additions to their staff and not replacements for retiring physicians.
- 28.2% of the surveyed practice managers indicated that the physicians in their practice spend part of their time providing specialty care and part providing primary care. These specialists that are also providing primary care are partly filling in for the lack of primary care physicians in Anchorage. 54.4% of the surveyed practice managers indicated that their physicians spend all of their time providing specialty care. 17.4% of the surveyed practice managers indicated that their physicians spend all their time providing primary care.
- The individual specialties that the surveyed practice managers indicated were presently under-represented also mirrored the data collected in this study.

Primary Care Providers:

- There is a drastic need for more adult primary care providers in Anchorage. The U.S. benchmark comparison data indicates that the number of Anchorage family practitioners is above the U.S. average benchmark and the number of Anchorage pediatricians is comparable to the U.S. average benchmark. However, the number of internists is much lower than the U.S. average benchmark.
- The family practitioners are partly filling in for the lack of internists. Still, the combined number of family practitioners and internal medicine providers is below the combined national average benchmark.
- There are access problems especially due to a lack of Medicare acceptance by primary care providers.
- Alaska's population is relatively younger than the US average, which may suggest that a larger number of pediatricians are needed than the U.S. average benchmark suggests.
- The 55 and older physicians and the practice managers surveyed perceive a need for additional primary care providers in the Anchorage community. Internal medicine was the highest perceived under-represented specialty in Anchorage among the practice managers surveyed and the second highest perceived under-represented specialty among the 55 and older physicians surveyed. Family practice was also a perceived under-represented specialty among the surveyed practice managers and 55 and older physicians.
- 22% of the primary care physicians are over age 55, which includes the 7% that are over age 65. Of the 55 and older physicians surveyed, 42.1% indicated that they plan to retire within 5 years and an additional 36.8% indicated that they plan to retire in 6 to 10 years. Therefore, an estimated 9.3% of all primary care providers will retire within 5 years and an additional estimated 8.1% of primary care providers will retire within 10 years.
- 30% of the surveyed practice managers (15 out of 50) are currently recruiting physicians. Of these 15 recruiting practice managers, 3 (17.6%) are recruiting family practitioners, 2 (11.8%) are recruiting internal medicine specialists, and 2 (11.8%) are recruiting pediatricians.
- 26% of the surveyed practice managers indicated that they had already recruited new physicians who are not yet practicing. Of these 21 newly recruited physicians, 2 are pediatricians, 1 is a family practitioner, and 1 is an internal medicine specialist.

Hospital Based Providers:

- U.S. benchmark comparison data indicated that Anchorage has adequate supply of physicians practicing anesthesiology and emergency medicine.
- U.S. benchmark comparison data indicated that a provider need currently exists for physicians practicing pathology and radiology in Anchorage.
- A large number of emergency medicine providers are needed due to Alaska's relatively young population and high number of accidents, as well as the lack of primary care providers.
- The 55 and older physicians and the practice managers surveyed perceive a need for additional hospital based providers in the Anchorage community. Anesthesiology, emergency medicine, pathology, and radiology were all perceived under-represented specialties among the 55 and older physicians surveyed. Anesthesiology, pathology, and radiology were perceived under-represented specialties in Anchorage among the practice managers surveyed.
- 16% of the hospital based physicians are over age 55, which includes the 4% that are over age 65. Of the 55 and older physicians surveyed, 42.1% indicated that they plan to retire within 5 years and an additional 36.8% indicated that they plan to retire in 6 to 10 years. Therefore, an estimated 6.7% of all hospital based providers will retire within 5 years and an additional estimated 5.9% of hospital based providers will retire within 10 years.
- 30% of the surveyed practice managers (15 out of 50) are currently recruiting physicians. Of these 15 recruiting practice managers, 2 (11.8%) are recruiting radiologists.
- 26% of the surveyed practice managers indicated that they had already recruited new physicians who are not yet practicing. Of these 21 newly recruited physicians, 2 are anesthesiologists.

Medical Specialists:

- U.S. benchmark comparison data indicated that Anchorage has an adequate supply of physicians practicing cardiology, endocrinology, nephrology, and physical medicine/rehab.
- U.S. benchmark comparison data indicated that a provider need currently exists for physicians practicing allergy/immunology, dermatology, gastroenterology, hematology/oncology, infectious diseases, neurology, preventive medicine, pulmonology, and rheumatology in Anchorage. This need is very critical in some of these areas.
- There were no available U.S. benchmarks to determine whether there is a potential provider need for physicians practicing geriatric medicine, pain management, radiation oncology, and sleep in Anchorage.
- Alaska death rates caused by heart disease, cancer, cerebrovascular disease, chronic obstructive pulmonary disease, diabetes, and HIV are lower than the average of the United States. This suggests a diminished need for physicians with specialties of cardiology, hematology/oncology, pulmonology, and infectious diseases.
- Alaska has a significantly lower population of adults beyond the age of 55 than the national average of the United States. This may suggest a decreased need for providers of older age diseases, such as cardiology.
- The Anchorage cardiology group has a statewide presence, which could shift the figures toward need.
- There is a crisis of access in neurology.
- The 55 and older physicians and the practice managers surveyed perceive a need for additional medical specialists in the Anchorage community. Neurology was the highest perceived under-represented specialty in Anchorage among the physicians age 55 and over surveyed and the second highest perceived under-represented specialty among the practice managers surveyed. The other perceived under-represented specialties are rheumatology, dermatology, nephrology, endocrinology, infectious diseases, gastroenterology, pulmonology, allergy, oncology, urology, geriatric medicine, pain management, rehab, sleep, preventive medicine, and radiation oncology.
- 26% of the medical specialists are over age 55, which includes the 4% that are over age 65. Of the 55 and older physicians surveyed, 42.1% indicated that they plan to retire within 5 years and an additional 36.8% indicated that they plan to retire in 6 to 10 years. Therefore, an estimated 10.9% of all medical specialists will retire within 5 years and an additional estimated 9.6% of medical specialists will retire within 10 years.
- 30% of the surveyed practice managers (15 out of 50) are currently recruiting physicians. Of these 15 recruiting practice managers, 1 (5.9%) is recruiting neurologists, 1 (5.9%) is recruiting pain management physicians, 1 (5.9%) is recruiting pulmonologists, and 1 (5.9%) is recruiting urologists.
- 26% of the surveyed practice managers indicated that they had already recruited new physicians who are not yet practicing. Of these 21 newly recruited physicians, 4 are urologists and 1 is a gastroenterologist.

Pediatric Specialists:

- U.S. benchmark comparison data indicated that Anchorage has an adequate supply of neonatologists.
- U.S. benchmark comparison data indicated that a provider need currently exists for physicians practicing pediatric allergy, pediatric cardiology, and pediatric oncology in Anchorage.
- There were no available U.S. benchmarks to determine whether there is a potential provider need for physicians practicing pediatric pulmonology, pediatric neurodevelopment, and pediatric intensive care in Anchorage.
- Alaska's population is relatively younger than the US average, which may suggest that a larger number of pediatric specialists are needed than the U.S. average benchmark suggests.
- The 55 and older physicians and the practice managers surveyed both perceive a need for additional pediatric specialists in the Anchorage community. These perceived under-represented pediatric specialties include pediatric neurology, pediatric pulmonology, pediatric dermatology, pediatric endocrinology, pediatric intensivists, and pediatric specialists in general.
- 19% of the pediatric specialists are over age 55. Of the 55 and older physicians surveyed, 42.1% indicated that they plan to retire within 5 years and an additional 36.8% indicated that they plan to retire in 6 to 10 years. Therefore, an estimated 8.0% of all pediatric specialists will retire within 5 years and an additional estimated 7.0% of pediatric specialists will retire within 10 years.
- 30% of the surveyed practice managers (15 out of 50) are currently recruiting physicians. Of these 15 recruiting practice managers, 1 (5.9%) is recruiting pediatric anesthesiologists and 1 (5.9%) is recruiting pediatric pulmonologists.

Surgical Specialists:

- U.S. benchmark comparison data indicated that Anchorage has an adequate supply of physicians practicing cardiac/thoracic surgery, orthopedic surgery, and plastic surgery.
- U.S. benchmark comparison data indicated that a provider need currently exists for physicians practicing neurosurgery, OB/GYN, ophthalmology, general surgery, ENT, and urology.
- A large number of orthopedics are needed due to the relatively young population and the large number of accidents. Also, orthopedics are full and there is an access problem. Although the benchmark comparison data indicated that Anchorage has an adequate supply of orthopedics, more may be needed.
- Alaska has a significantly lower population of adults beyond the age of 55 than does the national average of the United States. This may suggest a decreased need for providers of older age diseases, such as general surgery.
- The 55 and older physicians and the practice managers surveyed both perceive a need for additional surgical specialists in the Anchorage community. Neurosurgery was the third highest perceived under-represented specialty in Anchorage among the practice managers surveyed and among the 55 and older physicians surveyed. Some of the other perceived under-represented medical specialties include orthopedics, pediatric neurosurgery, pediatric orthopedics, pediatric cardiac surgery, pediatric surgery, general surgery, and colon/rectal surgery.
- 34% of the surgical specialists are over age 55, which includes the 6% that are over age 65. Of the 55 and older physicians surveyed, 42.1% indicated that they plan to retire within 5 years and an additional 36.8% indicated that they plan to retire in 6 to 10 years. Therefore, an estimated 14.3% of surgical specialists will retire within 5 years and an additional estimated 12.5% of surgical specialists will retire within 10 years.
- 26% of the surveyed practice managers indicated that they had already recruited new physicians who are not yet practicing. Of these 21 newly recruited physicians, 3 are OB/GYN physicians.



Mental Health Providers:

- U.S. benchmark comparison data indicated that Anchorage has a significant need for both adult and child psychiatrists.
- Alaska death rates caused by suicide is higher than the US average, which may suggest a greater need for mental health professionals.
- The 55 and older physicians and the practice managers surveyed perceive a need for additional mental health providers. Some of the respondents of the 55 and older survey and the practice manager survey named psychiatry as an under-represented specialty in Anchorage.
- 29% of the mental health providers are over age 55, which includes the 10% that are over age 65. Of the 55 and older physicians surveyed, 42.1% indicated that they plan to retire within 5 years and an additional 36.8% indicated that they plan to retire in 6 to 10 years. Therefore, an estimated 12.2% of mental health providers will retire within 5 years and an additional estimated 10.7% of mental health providers will retire within 10 years.
- None of the practice managers that responded to the survey indicated that they are planning to recruit psychiatrists or have already recruited psychiatrists who are not yet practicing.



Suggested Next Steps:

- Present the physician need assessment to the PAMC Medical Executive committee in September
- Present the physician need assessment to the PAMC and PHSA leadership in September
- Present the physician need assessment to the PHSA Alaska Region Board in October

These presentations will:

- Introduce the 2002 Anchorage physician data
- Compare the 2002 data with the prior physician data
- Introduce the results of the 55 and older physician survey and the practice manager survey
- Raise the issues of the under-served specialties, including the access to care issues
- Raise the issues of the most effective ways to recruit for under-served specialties as they exist presently and in the future

Jim Jordan

From: "Ron Neupauer" <ronn@miec.com>
To: "Jim Jordan" <asma@alaska.net>
Cc: "Dick Mello (E-mail)" <dickm@miec.com>; "Steve Stimmel (E-mail)" <steves@miec.com>
Sent: Tuesday, February 03, 2004 12:41 PM
Attach: MICRA effect 2003.xls; Milliman Med Mal Study.doc; Milliman NPDB Med Mal Data.xls; Jan'04 med mal article - HealthTracking.pdf; Contingencies article 11-03 - caps work.pdf; 2003 Joint Comm Rept on Med Mal.pdf
Subject: RE: Tort Reform

Glad you asked. The best 'single pick' exhibit of MICRA's effectiveness in holding down malpractice costs is the comparison of California's average premium for 3 representative specialties (internal medicine, general surgery, ob/gyn) with that of the five highest priced states (usually Florida, New York, Michigan, Texas & Illinois). The data is from Medical Liability Monitor which surveys doctor-owned companies each year. It's attached as "MICRA effect 2003"

MIEC's Alaska rates are 13% higher than those applicable to Northern California – this applies to all specialties and classes.

As far as studies are concerned, I have a few to offer

- 1- Abstract of a 2003 Milliman (actuaries/consultants) study showing the effectiveness of caps on damages in holding down awards, using data from the NPDB.
- 2- An article from the January 21, 2004 issue of Health Affairs describing the effect of caps on damages
- 3- The complete Milliman study published in the November, 2003 issue of Contingencies
- 4- A Joint Congressional Committee report published in 2003 which studies the extent and effect of the malpractice crisis. This study, on page 21 credits California's MICRA reforms with keeping malpractice loss costs, and premiums relatively modest, compared with the 'crisis states' that have no tort reform

This seems an ideal year to pass stronger tort reforms in Alaska. Much of the country is reeling from a continuing malpractice insurance crisis. With the supply of physicians in Alaska already at risk, any tort lottery induced spike in claims costs and subsequent needed premium hikes could be devastating to patients' access to proper medical care.

We look forward to working with you in this effort.

Ron

-----Original Message-----

From: Jim Jordan [mailto:asma@alaska.net]
Sent: Tuesday, February 03, 2004 11:40 AM
To: Ron Neupauer
Subject: Tort Reform

Ron,

We are definitely on the "ramp-up" in anticipation of the introduction of a tort reform bill setting the cap for non-economic damages at \$250,000. Bill might be introduced as early as Monday.

Because the 250K cap is the MICRA "gold standard" comparison to California will be asked for. For 2004, do you have or can you easily produce a comparison between AK rates by specialty and those for California (No. Cal.?)? Obviously, we want to show that California has lower rates somewhat attributed to the 250K cap.

Also, do you by any chance have a copy of any actuarial studies that show the 250K cap to be the most important element in impacting rates? I have a 1997 American

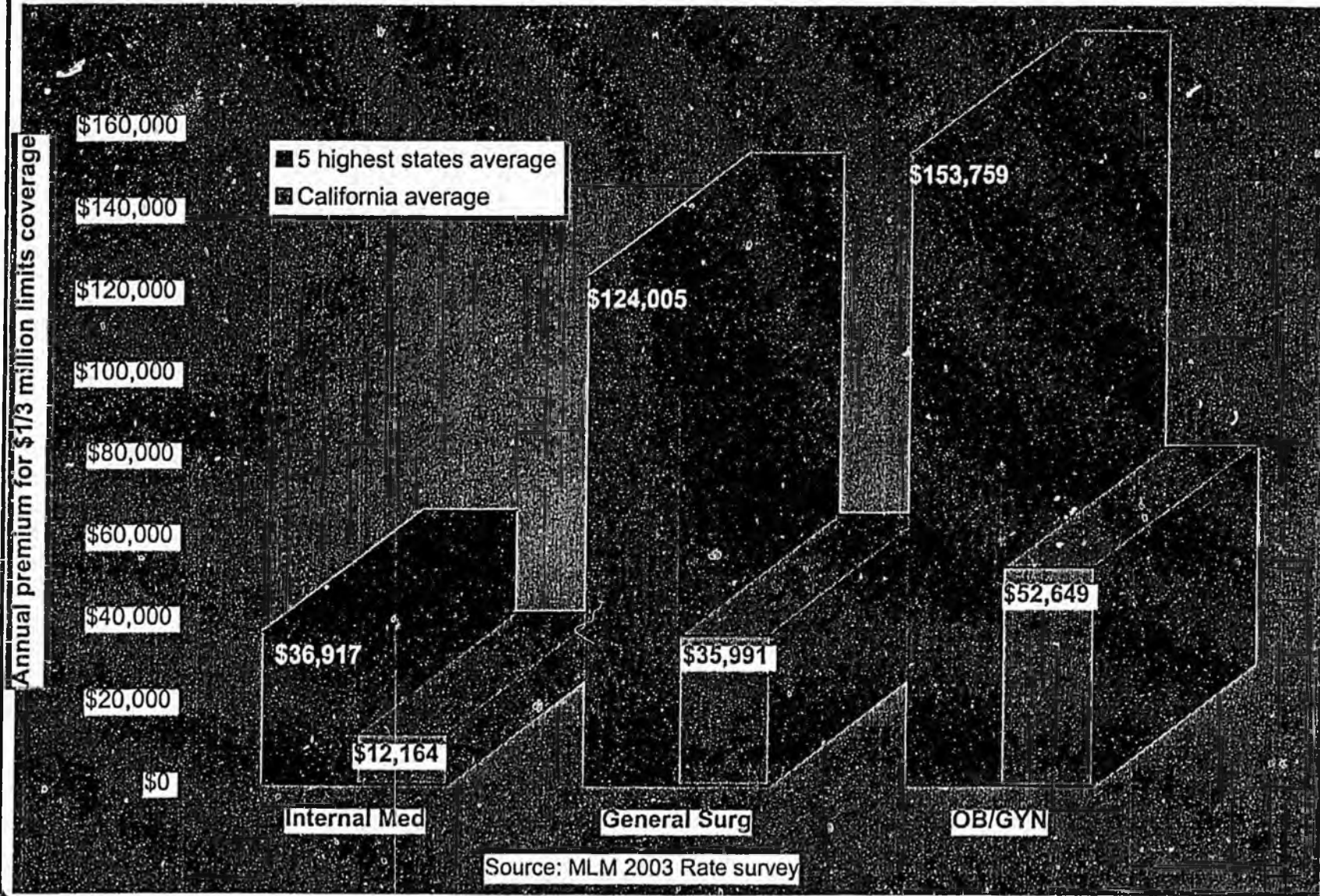
Academy of Actuaries study that indicates that. I think maybe PIAA may have done something as well as some states (Texas, and Pennsylvania?).

Thanks for the help. Also, if you have any other "stuff" that you think would be of help please send it along.

Thanks,
Jim

James Jordan
Executive Director
Alaska State Medical Association
907-562-0304
ASMA@alaska.net

Physician owned insurers malpractice premium comparison - 2003





Milliman USA

Consultants and Actuaries

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MILLIMAN USA ANALYSIS SEES SAVINGS FOR PROFESSIONAL MEDICAL MALPRACTICE COSTS

Examines Large States Using Caps on Non-Economic Damages

NEW YORK, April 8, 2003: A Milliman USA analysis of medical malpractice claims in the 15 largest states from late 1990 to early 2001 shows wide differences in medical malpractice loss costs by state for physicians, and these differences correlate to whether or not the state has enacted caps on non-economic damages. The study demonstrates that the large states with caps on non-economic damages have below-average medical malpractice loss costs for physicians. Conversely, the large states without caps have the highest medical malpractice costs.

"The data indicate that caps on non-economic damages reduce the cost of insuring medical malpractice for physicians in the states in our study that have instituted this element of tort reform," said Richard S. Biondi, Principal and Consulting Actuary at Milliman USA and the author of the Milliman study. "The study implies that caps on non-economic damages would significantly reduce total losses for both physicians and hospitals."

The data is consistent with results others have observed in California, which is well-known for capping non-economic damages at \$250,000 since 1975. In that state, the medical malpractice losses per physician are about half (52%) of the countrywide average. Other large states in the study that have instituted caps and subsequently have lower medical malpractice losses per physician are: Colorado (69% of the countrywide average), Indiana (86%) and Maryland (64%).

Conversely, large states without caps have higher than average medical malpractice losses per physician. They include: Florida (136% of countrywide average), Illinois (144%), New Jersey (131%), New York (156%), Pennsylvania (171%), and Washington, D.C. (144%).

In a separate 1997 analysis performed by Mr. Biondi using data for New York, which does not have caps, savings were estimated on physicians' medical malpractice losses if caps were instituted. It was projected that caps of \$250,000, \$500,000, \$750,000, and \$1,000,000 would result in a reduction in losses of 29%, 20%, 14% and 11% respectively on policies providing \$1 million to \$3 million coverage for physicians.

press release

"There are other differences between these states besides the fact that they either have or don't have caps, and there are also differences in the size and application of the caps in the states that have them," said Mr. Biondi. "However, the pattern in this particular study is still very clear in showing that caps on non-economic damages are highly correlated to medical malpractice costs."

The data in the Milliman USA study included physicians' statistics by state from the National Practitioners Data Base Public Use Data File (NPDB), which contains selected variables from medical malpractice payment reports on physicians, dentists and other licensed healthcare professionals. A spreadsheet summarizing the results is attached.

Milliman USA, whose corporate offices are in Seattle, serves the full spectrum of business, financial, government and union organizations. Founded in 1947 as Milliman & Robertson, the company has 29 offices in the United States as well as offices in Bermuda, Hong Kong, Japan, Korea, Brazil, and the UK. Milliman USA employs approximately 1,750 people, including a professional staff of over 750 qualified consultants and actuaries. The firm has consulting practices in property and casualty, employee benefits, healthcare and life insurance. It is a founding member of Milliman Global, an international organization of consulting firms serving insurance, employee benefits and healthcare clients worldwide. For further information, visit www.milliman.com.

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NPDB* Loss Data for 15 Largest States and Nationwide

NPDB* Public Use Data File

*NPDB refers to the National Practitioners Data Base

9/1/90-4/30/01

National Claim and Loss Rate per Doctor Reported to the NPDB
(annual losses not trended)

	Doctors (approximate number in 1990)	Annual Loss Per Doctor	Relativity	Status Re Caps (Reference: Aug./Sept. 2002 Medical Liability Monitor)
CA	66,996	2,884	0.52	\$250K cap on non-economic damages.
CO	6,724	3,817	0.69	\$250K cap on non-economic damages. \$1M cap total.
DC	3,068	7,901	1.44	No cap.
FL	26,394	7,508	1.36	No cap for most claims. Caps apply when parties arbitrate.
IL	25,565	7,929	1.44	No cap. Declared unconstitutional.
IN	9,607	4,734	0.86	\$1.25M cap on total damages.
KS	4,673	5,846	1.06	No cap. Declared unconstitutional.
MA	20,089	3,802	0.69	\$500K cap on non-economic damages with exceptions.
MD	15,061	3,503	0.64	\$500K cap on non-economic damages.
MI	18,463	4,347	0.79	\$345K cap on non-economic damages.
NJ	18,765	7,232	1.31	No cap.
NY	56,264	8,610	1.56	No cap.
OH	22,401	6,443	1.17	No cap. Declared unconstitutional.
PA	29,784	9,386	1.71	No cap.
TX	29,004	6,083	1.11	No cap.
All Others	181,034	4,363	0.79	
Total	537,389	5,502		
	533,890			

Milliman USA Study includes physicians' statistics from the NPDB Public Use Data File, which contains selected variables from medical malpractice payment reports on physicians, dentist and other licensed healthcare professionals.

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TRENDS

The Medical Malpractice 'Crisis': Recent Trends And The Impact Of State Tort Reforms

Do recent events constitute a crisis or merely the workings of the insurance cycle?

by Kenneth E. Thorpe

ABSTRACT: By many accounts, the United States is in the midst of its third medical malpractice "crisis." Physicians in several states are facing high and rising premiums. The largest national medical malpractice carrier and some large multistate physician-backed liability firms have recently left the market. Rising premiums are traced largely to increases in claims severity. Capping malpractice payments has been advanced as one approach to slowing the growth in premiums. This analysis finds that premiums in states that cap awards are 17.1 percent lower than in states that don't cap. At issue, however, is whether these stopgap solutions promote the goals of the U.S. liability system.

BY MANY ACCOUNTS, the United States is in the midst of its third "crisis" in medical malpractice. The medical malpractice "crises" in the mid-1970s and 1980s occurred during times of rapid growth in insurance premiums. In the 1970s rising claims frequency and severity resulted in the exit of many malpractice carriers.¹ Some for-profit liability carriers were replaced by a new wave of physician-owned malpractice companies. Medical liability premiums increased sharply again during the 1980s, leading several states to adopt reforms designed to limit malpractice insurers' costs. Indeed, the events of the 1980s led to proposals for broader, more fundamental reforms of the liability system.

Both rising premiums and a reduction in the number of firms offering coverage characterize the most recent medical malpractice crisis. Depending on the specialty and state, the median increase in malpractice premiums ranged from 15 to 30 percent. Rate increases in

other states, such as Pennsylvania, ranged from 26 to 73 percent in 2003.² The St. Paul Companies, the largest insurer throughout most of the 1990s, stopped writing policies during 2002. Other large, regional carriers have also exited the market. Overall, these insurers accounted for nearly 14 percent of the national market prior to the crisis.³ In several states facing the most acute crises, carriers exiting the market accounted for a substantial (up to 40 percent) share of premiums written.

While premiums have risen sharply over the past three years, there is much variation across states. The premium spikes have resulted in physician strikes in West Virginia, work slowdowns in New Jersey, and some temporary closings of hospital services (such as trauma care at the University of Nevada Medical Center). Physicians in other states, such as Connecticut, are staging rallies at their state capitol, demanding "tort" reform. A recent analysis by the American Medical Associ-

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ation (AMA) reports that twelve states face crises in their medical liability systems, with problem signs appearing in another thirty.⁴ However, there does not appear to be a crisis in the remaining states, as growth in insurance premiums has been low.

The spike in premiums has created much tension within the physician community. Prospects for federal tort reform limiting payments from malpractice suits have been improved by support from President George W. Bush and a lobbying campaign by the AMA. The House of Representatives recently passed the Help Efficient, Accessible, Low-Cost, Timely Healthcare (HEALTH) Act of 2003 (H.R. 5), which would limit payments from malpractice claims. However, similar legislation has not passed in the Senate.

The crux of the debate focuses on the underlying causes of the most recent rise in premiums. Providers point to a rise in jury awards and rising costs of defending malpractice claims (rising severity). They also highlight the role that contingency fees paid to attorneys play in creating incentives for "frivolous" suits. Some consumer groups, however, believe that rising rates can be traced to lower returns on investments received by the medical malpractice carriers and a downturn in the economy. Such disagreements have led to a contentious debate over what, if any, changes should occur in medical malpractice liability law. This paper examines recent trends in the medical malpractice industry and estimates the impact that tort reforms could have on premiums.

Trends In Key Medical Malpractice Premiums And Financial Ratios

The past four years have seen rising medical malpractice premiums, declining profits, and a reduction in the number of liability carriers offering insurance (Exhibit 1). According to data collected by the National Association of Insurance Commissioners (NAIC), total medical malpractice premiums earned (those retained by malpractice insurance carriers) increased by 23 percent in 2002.

These averages mask variation in the growth in premiums across states. Premium increases in several states, including Florida (more than a 50 percent premium increase for internists) and Ohio (more than a 60 percent premium increase for some internists), were substantial. However, other states such as California saw very small premium increases.

The most important drivers of recent rate increases are (1) severity (awards, settlements, and defense and administrative costs); frequency (claims per insured physician); and (3) changes in investment income. In combination, these factors largely determine expenses and, when compared with premiums earned and investment income, are an indication of overall profitability.

One widely used profit measure is the loss ratio (awards, settlements, and defense costs as a percentage of premium). Exhibit 2 presents data concerning the combined loss ratio, a broader measure that also includes dividends paid to policyholders and corporate income

EXHIBIT 1
Trends In Medical Malpractice Premiums, As Percentage Change, 1998-2002

Year	Premiums earned (%)	OB-GYN premiums (%)	Internal medicine premiums (%)	General surgery premiums (%)
1998	9.1	0.3	-2.9	1.0
1999	3.9	2.1	5.1	1.1
2000	5.3	4.8	7.3	7.0
2001	14.1	10.3	9.9	12.0
2002	23.2	14.2	20.0	21.9

SOURCES: Premiums earned: National Association of Insurance Commissioners data; and premium increases for physician specialties: tabulations from the Medical Liability Monitor, 8 October 2002.

NOTE: OB/GYN is obstetrician/gynecologist.

EXHIBIT 2
Trends In Medical Malpractice Financial Ratios, 1995-2002

Year	Broad combined ratio ^a (%)	Loss ratio ^b (%)	Investment insurance ratio ^c (%)	Net Income ^c (%)
1995	126	95	49	23
1996	124	91	44	20
1997	124	91	45	21
1998	126	92	43	17
1999	122	91	34	12
2000	129	103	33	4
2001	141	113	31	-10
2002	129	111	18	-11

SOURCES: Senate Committee on Health, Education, Labor, and Pensions hearing, 11 February 2003; and Tillinghast-Towers Perrin tabulations using the National Association of Insurance Commissioners filings of Physician Insurers Association of America (PIAA) companies for 2002.

^a Awards, settlements, and defense costs plus dividends, administrative costs, and corporate income taxes as a percentage of premium.

^b Awards, settlements, and defense costs as percentage of premium.

^c As a percentage of premiums.

taxes, as well as investment income as a share of premium. Net income is the difference between the broad combined ratio and investment income.⁵

Several important trends appear in these data. First, the broad combined ratio, which measures claims payments, reserves for potential future awards settlements, and defense and administrative costs as a percentage of earned premiums, has risen since 1999. Thus, by 2002 every premium dollar collected resulted in \$1.29 in total expenses, awards, and settlements. Historically, malpractice carriers have offset these underwriting losses with earnings from investment income. Starting in 1995, investments as a share of premiums decreased sharply, falling thirty percentage points by 2002. All combined, these trends reduced carriers' overall net after-tax income from 23 percent to -11 percent by 2002.

What Accounts For The Deteriorating Financial Condition Of Malpractice Carriers?

Several factors likely account for medical malpractice carriers' deteriorating financial condition.⁶ At issue is whether the most recent trends reflect the traditional underwriting cy-

cle that will eventually regress to mean profits in the industry, or a permanent upward increase in average losses and premiums. Factors influencing these trends include the following.

■ Traditional insurance cycle trends.

Although all lines of insurance have underwriting cycles, the medical malpractice market experiences wider swings in profitability. Malpractice claims face a long lag from the time an event occurs and a claim is filed to the actual payout date. Premiums established in a given year are designed to cover the claims and defense costs associated with claims filed during the same year. However, it may take several years before claims and premiums can be reconciled to a given year, which adds much uncertainty in setting premiums. Unpublished data from one large carrier revealed that nearly 70 percent of claims were paid within five years of being filed. However, nearly 12 percent took at least eight years to resolve.

Firms' policies for setting aside reserves also influence calendar-year profits.⁷ Reserves are treated as an expense and, other things constant, reduce profits. During the early 1990s actual claims payments turned out to be lower than projected, and reserves set aside to pay future claims were too high.⁸ Over time,

loss reserves were reduced (thus reducing expenses), resulting in rising profits (lower loss ratios) during the early 1990s. The combination of relatively high investment returns and overreserving in the early and mid-1990s resulted in rising profits that encouraged some firms to hold the line on rates. With declining profits and a projected rise in costs, medical malpractice companies have increased their reserves by drawing down surplus, resulting in lower profits (higher loss ratios).

■ **High investment returns.** The net investment yield for malpractice firms increased to nearly 8 percent by 1998 and has since declined to approximately 6 percent.⁹ The growth in returns produced a high investment income ratio through 1998 but has decreased since then. Higher investment returns offset the need to raise premiums. A one-percentage-point increase in expected returns is associated with a reduction in premiums of two to four percentage points.¹⁰

■ **Rising severity.** Median malpractice awards (including both jury awards and settlements) per paid claim have doubled in real terms between 1990 and 2001.¹¹ The data indicate that severity has increased approximately 9 percent per year since 1990 (other estimates tracking the market are similar; see, for instance, data in National Practitioner Data Bank annual reports). Several factors may account for the rise in severity. (1) Rising economic costs (future medical expenses, lost wages) appear to be rising slightly faster than overall indemnity payments (the sum of non-economic and economic awards).¹² (2) Severity of injury per paid claim is also rising. (3) The share of million-dollar awards is also rising. The rise in payments over time is particularly high among cases with grave permanent injury. The Physician Insurers Association of American (PIAA) reports that nearly 8 percent of all awards now exceed \$1 million—double the share just five years ago.¹³ Data from Illinois reveal that average indemnity of paid claims for an adult with grave permanent injuries has risen from \$960,100 (during 1990-1994) to nearly \$1.6 million (1995-1999).¹⁴

(4) Defense and administrative costs are

also rising. Data from PIAA and several state insurance departments (such as Ohio and Illinois) show a sharp rise in defense and administrative costs per paid claim. Defense costs have greatly increased in the most severe cases (major and grave permanent injury).

■ **Rising costs of reinsurance.** The rise in claims severity flows through to the reinsurance market. Rising severity, coupled with the events of 11 September 2001, has led reinsurers to add to their reserves and increase reinsurance rates to medical malpractice companies.

■ **Reduced capacity.** The structure of the insurance market has changed dramatically in some of the states facing the sharpest rise in premiums (such as Nevada, West Virginia, Pennsylvania, and Ohio). Several years of underwriting losses led the St. Paul Companies, one of the largest national carriers, to increase its reserves by \$600 million in 2001 alone. It was the largest carrier in several states that are now facing sharp increases in medical malpractice premiums.¹⁵ For example, it was the second-largest insurer in Nevada by 1996, accounting for 32 percent of all written premiums.¹⁶

In addition to The St. Paul, several physician-owned companies—most notably, PHICO (in Pennsylvania) and PIE Mutual (in Ohio)—expanded their medical malpractice business outside their state of domicile. In virtually every case, these companies generated large operating losses outside their home states. By 1996 PHICO wrote medical malpractice policies in twenty states, while PIE Mutual entered about a dozen states. PIE Mutual had the largest market share—nearly a third of premiums written in West Virginia in 1996 alone. However, it was declared insolvent in 1998 and ceased operations. The Commonwealth of Pennsylvania declared PHICO insolvent in 2002. As a result, nearly a third of the physicians in West Virginia changed carriers. The St. Paul largely filled the void in West Virginia between 1996 and 2001. However, by 2001 it ceased writing new business, again placing West Virginia's physicians in a precarious position looking for new medical malpractice insurance coverage. The St. Paul announced in December 2001 that it would exit

the medical malpractice market altogether.¹⁷ The company's exit left more than 36 percent of Nevada's physicians looking for new coverage. More than a third of Ohio's physicians have changed liability carriers over the past five years as well.¹⁸

These recent changes in market structure have strained the underwriting capacity of medical malpractice companies in several states. Nearly 15 percent of the entire medical malpractice book of business nationally (highly concentrated in several states) has switched, or attempted to switch, malpractice companies since 1998. The issue here concerns liability companies' ability to write the new business. The remaining companies are drawing down surplus and increasing reserves in anticipation of rising claims payments. At the same time, the entire St. Paul book of business is seeking new coverage. Thus, an emerging issue is how much new business the remaining carriers can underwrite. Regulators and rating agencies (such as A.M. Best) use metrics such as the premium-to-surplus (PS) ratio for guidance regarding underwriting capacity, with PS ratios less than 1 preferred. In some cases, the PS ratios have been rising sharply, raising concerns about the (short-run) capacity of the remaining carriers to absorb the new business.

■ **Rising frequency.** While the number of claims per physician rose sharply between 1956 and 1990 (from 1.5 claims per 100 covered physicians in 1956 to approximately 15 per 100 in 1990, as reported by The St. Paul), the trends appear relatively flat nationally over the past couple of years. In some states (such as Missouri) reported frequency has declined.¹⁹ However, other states have reported a rise in frequency, particularly states with caps on noneconomic damages and no process for discouraging claims frequency (such as an affidavit or certificate of merit)—for instance, Louisiana reports approximately thirty-one claims per physician, double the national average.²⁰

Is This A Crisis, Or Simply The Workings Of The Insurance Cycle?

Certainly to the physicians facing 40–60 percent increases in their premiums, the recent spike in premiums is a crisis. With respect to the broader functioning of the market, however, the jury is out. Rising claims costs may reflect a rise in underlying negligence. If true, the system may be functioning as designed, and the spike in premiums may provide stronger incentives for physicians to im-

"Certainly to the physicians facing 40–60 percent increases in their premiums, the recent spike in premiums is a crisis."

prove the quality of care provided (the deterrence function of medical liability law). On the other hand, we may be observing a permanent rise in claims payments and costs unrelated to trends in physician negligence. At issue is the extent to which the underlying factors generating higher premiums are follow-

ing a traditional cyclical insurance pattern, or whether a structural change has occurred in severity and frequency.

The 2000 "crisis" does differ in several key respects from earlier ones. The substantial disruption in market supply in several states—traced to a handful of multistate physician-backed firms and the experience of The St. Paul—are new and, it is hoped, transitory events. It appears that a substantial share of the multistate, physician-owned companies have refocused their effects on their state of domicile. With The St. Paul now out of the market, both trends should eventually bring some stability into states that have been adversely affected. Thus, these substantial disruptions may not signal long-term structural problems of competition or capacity.

Second, many physicians also feel squeezed by rising insurance premiums and declining Medicare reimbursement. Indeed, the rise in premiums has occurred just as Medicare payments to physicians decreased 5.4 percent in 2003.²¹

With respect to broader structural changes, data from PIAA (along with some selected state data) reveal a long-term rise in claims severity.

In Illinois, for example, million-dollar awards accounted for 4 percent of all claims and nearly 42 percent of all indemnity payments between 1985 and 1989. By 1995-1999, 12 percent of all claims exceeded a million dollars, accounting for 52 percent of all indemnity payments.²² The PIAA data show a similar long-term trend. During 1990, 1.5 percent of all paid claims exceeded a million dollars. By 2001 the percentage had risen to 8 percent.²³

Policy Options For Addressing Medical Malpractice

The goals of the liability system: are to provide financial incentives to deter substandard medical care and to compensate those injured by such care. There is some evidence that the current system performs poorly on both counts.²⁴ First, program administration—defense and underwriting costs—accounts for approximately 60 percent of total malpractice costs, and only 50 percent of total malpractice costs are returned to patients.²⁵ These costs are high even when compared with other tort-based systems, such as automobile litigation or airplane crashes, that determine fault and compensate victims.²⁶ Moreover, most patients that receive negligent care never receive any compensation. The Harvard Medical Practice Study found that only one malpractice claim was filed for every eight negligent medical injuries.²⁷ Second, deterring substandard medical care is a major rationale for using a tort-liability system for medical malpractice.²⁸ There is a considerable theoretical literature examining the potential of a tort-based system for optimally promoting safety.²⁹ Several empirical studies have also been conducted to evaluate whether the tort system deters medical errors. Overall, the literature is mixed.³⁰

The recent spike in premiums has renewed state and national interest in limiting claims payments. Several states adopted such limits in response to the spike in premiums in the 1970s and 1980s. More recent interest has been expressed by President Bush, the AMA, and others, in the form of supporting federal legislation capping award payments and reducing "frivolous" claims.³¹ Congressional Democrats

have advanced their own approach, aimed at curbing an exemption from antitrust laws provided under the McCarran-Ferguson Act. A key issue in the debate is whether state tort reforms slowed the growth in premiums and improved malpractice insurance firms' profitability. To address this question, the final section examines the impact of existing state tort reforms on malpractice premiums and profits through 2001.³²

Impact Of Traditional Tort Reforms

Using new data from the NAIC, I examined trends in premiums earned and loss ratios, by state, for 1985-2001.³³ I estimated two versions of the premium model. The first entered total earned premiums as the dependent variable, with total nonfederal physicians as an explanatory variable. The second model entered earned premiums divided by nonfederal physicians as the dependent variable. The key explanatory variables used in the regression are the state tort reforms and other factors (outlined below) influencing claims payments, claims frequency, and insurer costs. I also examined the impact of competition on premiums and profitability over time.

■ **State tort reforms.** *Damage caps.* Damages in medical malpractice cases fall into three general categories: noneconomic damages (pain, suffering, anguish), economic damages (lost wages and medical care expenses), and punitive damages, if conduct is viewed as malicious or in reckless disregard of plaintiffs' rights (these are rarely awarded). Only five states cap both economic and noneconomic damages, so I combined states that cap noneconomic damages or both noneconomic and economic damages into a composite "award cap" measure (twenty-four states by 2001). The empirical analysis was designed to assess the impact that award caps and caps on punitive damages, or not allowing punitive damages, have on profits and premiums.

Joint and several liability. Joint and several liability is the ability to collect the entire award from any liable defendant, independent of the degree of fault. This allows the plaintiff to collect from the group, or any individual provider,

the entire amount of the award. Tort reforms have limited this so that the defendant is not liable for more than his or her degree of fault and is not jointly liable with any other person for damages attributed to them.

Statutory caps on attorneys' fees. Attorneys in malpractice cases are generally paid a percentage of the award received by the plaintiff. These reforms limit the contingency fees attorneys may receive, which reduce the financial incentives to file a claim.

Collateral offset rule. This rule states that a plaintiff could recover the full amount of the reward even if the plaintiff received money from other sources such as health insurance or worker's compensation. Some states have adopted mandatory and discretionary offsets that reduce the award by the amount the plaintiff will receive from other sources, while other states allow the information on collateral sources to be entered as evidence before an award amount is determined. I use two measures in the analysis—one indicating whether the state had a mandatory offset for collateral sources, and a second for states that permit an offset for collateral sources.

In addition to state tort reforms, the analysis included other factors found by previous research to influence premiums and profits.³⁴ These include factors affecting the frequency of claims, including attorneys per capita, percentage of population in an urban area, unemployment rate, and the number of welfare recipients per 100,000 population. Factors affecting the severity of awards, such as surgi-

cal procedures performed per 100,000 population and per capita income, were also included. Finally, I examined the impact of competition on premiums and profits using the Hirschman-Herfindahl Index (HHI).³⁵

The final data set included all fifty states and the District of Columbia (cross-sectional) over seventeen years (time series). Using both random and fixed-effects models, I regressed the (log) loss ratio and earned premiums on state dummies indicating whether the state had adopted each reform, and if so in what year.³⁶ The key results are presented in Exhibit 3. The model was estimated using both fixed- and random-effects models.³⁷

Empirical results. The empirical results indicate that the caps on awards adopted by several states were associated with lower loss ratios and lower premiums (Exhibit 3). However, other than states with discretionary offsets, other tort reforms were not associated with lower premiums or improved profits. Loss ratios in states capping awards were 11.7 percent lower than in states without caps.³⁸ In addition, loss ratios were 13.3 percent lower in states with discretionary collateral offsets. Loss ratios were 25 percent lower in states that adopted both reforms. The impact of states with mandatory offsets on loss ratios was not significantly different from zero.

Premiums in states with a cap on awards were 17.1 percent lower than in states without such caps. When using earned premium per physician as the dependent variable, the caps were associated with a 12 percent reduction in

EXHIBIT 3
Impact Of State Medical Malpractice Tort Reforms On Loss Ratios And Premiums,
Relative To No Tort Reforms

Performance measure	Awards caps	No punitive damage or punitive cap	Mandatory collateral offset rule	Discretionary collateral offset	Attorney fee caps
Loss ratio	-11.7% ($p = .06$)	NS	NS	-13.3% ($p \leq .10$)	NS
Total earned premium	-17.1% ($p < .05$)	NS	NS	NS	NS
Earned premium per physician	-12.7% ($p < .05$)	NS	NS	NS	NS

SOURCE: Author's analysis (regression results available upon request).

NOTES: Statistical findings denote difference from zero. NS is not significantly different from zero.

premiums. The analysis found no association between the adoption of other state tort reforms on loss ratios, premiums, joint liability, caps on attorneys' fees, or collateral offsets.

The results also highlight the effect of competition on premiums and loss ratios. Competition varies in the industry across states as well as over time. The results indicate that a 10 percent increase in the index (less competitive) is associated with a 2 percent increase in premiums ($p < .05$). Several states have seen considerable changes (both increases and decreases) in market competition during the past two decades. Some states, such as West Virginia, have become less competitive since 1996, while competition in other states has increased. The regression results indicate that the 20 percent rise in the HHI in West Virginia

between 1996 and 2001 was associated with a 4 percent increase in premiums. The HHI increased by 80 percent during this period in Minnesota (associated with a 16 percent increase in premiums) but declined by 40 percent in Idaho. So at least in some states, the rise in market concentration has contributed to higher medical malpractice premiums. The impact of market concentration on loss ratios was not statistically significant.

Conclusions

Physicians in several states are facing sharp increases in their medical liability premiums. As a result, some facilities have temporarily shut down; physicians in some states are reluctant to perform high-risk procedures; and early physician retirements appear to be on the rise.³⁹ These physicians, and their patients, are facing an important short-term crisis. A major part of the policy debate concerns the factors generating the large increases in premiums in some states. Rising severity is now a two-decade-old phenomenon in the industry. Several malpractice firms with substantial market shares in some of the hardest-hit states—Ohio, West Virginia, Pennsylvania, and Nevada—ci-

ther left the market, became insolvent, or refocused their underwriting in their state of domicile. These trends caused substantial disruption in the medical malpractice marketplace in these states. Thus, a major part of the crisis in these states concerns both severity and the resulting impact on underwriting capacity among firms remaining in the market.

The analysis indicates that capping payments from malpractice carriers was associated with lower premiums.⁴⁰ Yet how should

"At least in some states, the rise in market concentration has contributed to higher medical malpractice premiums."

we interpret these results? At issue is whether we should adopt short-term, stopgap solutions to slow the growth in premiums, or use the recent experience to more fundamentally evaluate and perhaps reform the liability system. The recent spike in medical malpractice insurance premiums allows us an

opportunity to reexamine whether the tort system is achieving its goals. If it isn't, what changes in the system would improve the dual goals of deterrence and compensation? The results suggest that capping awards may improve the profitability of malpractice carriers and reduce premiums. Whether this is socially desirable or improves the goals of deterrence and compensation remains an open question.⁴¹

Another key question is the extent to which the most recent premium spike simply reflects the insurance cycle and changes in market structure and competition. Alternatively, do the recent trends also reflect a structural and secular rise in the severity of awards that, absent reforms, will permanently change the traditional insurance premium cycle? In this case, physicians could face several more years of rising premiums. Although experience varies across states, the data do indicate a long-term increase in awards and settlements per paid claim. At issue are the factors that underlie these trends. Do they reflect increases in the incidence of negligent adverse events and substandard physician care? If so, simply capping awards will ultimately result in lower growth in premiums but will leave unchanged

the fundamental problem of rising substandard care.

Surprisingly, we know very little about trends in the rates of negligent adverse events over time. The two most cited studies, from California in the 1970s and New York in the 1980s, suggest that these rates have been constant. More recent studies from Colorado and Utah conducted in the 1990s produced similar results.⁴² Clearly, more work in this area is required.

STOPGAP REFORMS (caps on awards) of our current liability system would ultimately result in lower premiums (relative to their levels without the caps). On the other hand, it is also important to evaluate any such reforms in the context of their ability to further the dual policy objectives of deterrence and compensation.

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NOTES

1. See, for example, R. Bovbjerg, "Legislation on Medical Malpractice: Further Developments and a Preliminary Report Card," *University of California, Davis, Law Review* 22, no. 2 (1989): 499-556.
2. As reported by *Medical Liability Monitor*, October 2003.
3. Tabulations from National Association of Insurance Commissioners, *Market Share Report—Medical Malpractice, 1997-2001* (Kansas City: NAIC, various years).
4. American Medical Association, "AMA Analysis: A Dozen States in Medical Liability Crisis" (Chicago: AMA, 17 June 2002).
5. This broader combined loss ratio combined with the investment income ratio produces a measure of net income. This is a standard measure used by actuaries in medical malpractice firms to measure changes in calendar-year profitability.
6. See, for example, Jim Hurley, Tillinghast-Towers Perrin, testimony before the House Energy and Commerce Subcommittee on Health, "Harming Patient Access to Care: The Impact of Excessive Litigation," 17 July 2002. Much of the discussion in this section is based on my analysis of data from the NAIC. In addition, I benefited greatly from the analyses of Jim Hurley from his testimony and a recent study from the U.S. General Accounting Office, *Medical Malpractice Insurance, Multiple Factors Have Contributed to Increased Premium Rates*, Pub. no. GAO-03-702 (Washington: GAO, June 2003).
7. Actuaries use a variety of methods for establishing reserves for medical malpractice firms. Reserves are generally posted on a claim filed within ninety days of the date an expected loss is reported. Reserves depend on the number of claims filed, the firms' expectation of the percentage of claims that will result in a payment, expenses (defense costs), and the expected payout. Reserves are reported as part of the loss expenses incurred in each firm's statement of income. If reserves turn out too high (that is, expected payouts were lower than actual payouts), a credit on the income statement is taken in a later year. Therefore, expenses on an income statement reflect both actual benefit and loss payments during a year (for events that occurred in a prior year) and reserves for claims filed this year expected to result in a future payment. They also show up on the balance sheet as a liability.
8. Hurley, "Harming Patient Access to Care."
9. A.M. Best, *Aggregates and Averages, 1997-2002* editions (Oldham, N.J.: A.M. Best, various years).
10. The precise impact will depend on the length of time it takes to resolve a claim. Some states with fast-track laws resolve claims faster than other states. The shorter the tail, the less impact a one-percentage-point change in investment returns will have on premiums.
11. Median jury awards plus median settlements per paid (awards plus settlements) claim, derived from the Physician Insurers Association of America (PIAA) data-sharing project. See L. Bartholomew, "Using PIAA Data: A Valuable Resource" (Washington: PIAA, 17 May 2002).
12. Missouri Department of Insurance, *Medical Malpractice Insurance in Missouri* (Jefferson City: Missouri Department of Insurance, February 2003). These data also indicate a rise in severity of injury per paid claim.
13. Bartholomew, "Using PIAA Data."
14. Illinois Department of Insurance, *Medical Malpractice Claims Study* (Springfield: Casualty Actuarial Section, 2001).
15. The St. Paul Companies, "The St. Paul Announces Fourth-Quarter Actions to Improve Profitability and Business Positioning," Press Release, 12 December 2001.

16. Market share data are from NAIC, *Market Share Reports, 1994-2001*.
17. Tabulations by author from NAIC, *Market Share Report by Line of Business—Medical Malpractice, 1995-2001* (Kansas City: NAIC, 2003).
18. *Ibid.*
19. However, the number of liability companies with closed claims still flowing through the system that report claims has likely declined here as well. For instance, the 2001 totals do not include claims from PHICO. So it is not clear whether the reports of falling claims frequency are real or simply an artifact of existing companies' failure to report closed claims to the state.
20. See, for example, LAMMICO, "The Letter" (no date provided), www.lammico.com/letter/article.asp?letter_article_id=294&letter_id=35 (23 July 2003).
21. The scheduled 4.5 percent additional cut was recently replaced by a 1.5 percent increase in payments in 2004. See H.R. 1, *The Medicare Prescription Drug Improvement Act of 2003*.
22. Illinois Department of Insurance, *Medical Malpractice Claims Study*.
23. Bartholomew, "Using PIAA Data."
24. P.C. Weiler et al., *A Measure of Malpractice: Medical Injury, Malpractice Litigation, and Patient Compensation* (Cambridge, Mass.: Harvard University Press, 1993).
25. J.S. Kakalik and N. Pace, *Costs and Compensation Paid in Tort Litigation* (Santa Monica, Calif.: RAND, 1986).
26. Weiler et al., *A Measure of Malpractice*, 77-109.
27. *Ibid.*, 70.
28. W.B. Schwartz and N.K. Komesar, "Doctors, Damages, and Deterrence: An Economic View of Medical Malpractice," *New England Journal of Medicine* 298, no. 23 (1978): 1282-1289.
29. See, for example, S. Shavell, "A Model of the Optimal Use of Liability and Safety Regulation," *RAND Journal of Economics* 15, no. 2 (1984): 271-280.
30. See, for example, L. Dubay et al., "The Impact of Malpractice Fears on Cesarean Section Rates," *Journal of Health Economics* 18, no. 4 (1999): 491-522; F. Sloan et al., "Effects of the Threat of Medical Malpractice Litigation and Other Factors on Birth Outcomes," *Medical Care* 33, no. 7 (1995): 700-714; and Harvard Medical Practice Study, *Patients, Doctors, and Lawyers: Medical Injury, Malpractice Litigation, and Patient Compensation in New York* (Cambridge, Mass.: Harvard University, 1990), chaps. 8 and 10. For additional discussion concerning the paucity of published empirical work linking the threat of suit to lower rates of negligent adverse events (or a reduction in standard medical care), see M. Mello and T. Brennan, "Deterrence of Medical Errors: Theory and Evidence for Malpractice Reform," *Texas Law Review* 80, no. 7 (2002): 1595-1637.
31. In some states plaintiffs can file a claim with its initial adjudication completed by a medical review panel. Plaintiffs can use this process for discovery, and if concurrence is received from the panel, the claim may proceed. Plaintiffs in other states must receive an expert (outside) validation or certificate of merit before the claim proceeds. Limited expenses are incurred under the first approach, while the latter approach provides some financial incentive not to file a claim with low likelihood of receiving a positive verdict.
32. The two most recent studies were conducted by W.K. Viscusi and P. Born, "Medical Malpractice Insurance in the Wake of Liability Reform," *Journal of Legal Studies* 24 (June 1995): 463-490, which evaluated the impacts through 1991; and by S. Zuckerman, R.R. Bovbjerg, and F. Sloan, "Effects of Tort Reforms and Other Factors on Medical Malpractice Insurance Premiums," *Inquiry* 27, no. 2 (1990): 167-182, which tracked the impact of state reforms through 1986.
33. NAIC, *Profitability Report* (Kansas City: NAIC, 2003).
34. See, for example, Viscusi and Born, "Medical Malpractice Insurance"; and Zuckerman et al., "Effects of Tort Reforms." Also see F. Sloan, P.M. Mergenhausen, and R.R. Bovbjerg, "Effects of Tort Reforms on the Value of Closed Medical Malpractice Claims: A Microanalysis," *Journal of Health Politics, Policy and Law* 14, no. 4 (1989): 663-689.
35. This is a standard measure of market concentration. It is simply the square of each firm's market share summed. Data on market shares were derived from the NAIC and from unpublished data from the Congressional Budget Office.
36. Data on state tort reform laws were initially developed using information from the Web site of a specialty law firm, McCullough, Campbell, and Lane, www.mcandl.com/states.html (30 July 2003). When information from this site was not clear, state insurance departments were asked for clarification. Finally, I compared these results with those used by the CBO to develop its estimates in developing H.R. 5, as seen at CBO, "H.R. 5: Help Efficient, Accessible, Low-Cost, Timely Healthcare (HEALTH) Act of 2003," 10 March 2003, www.cbo.gov/showdoc.cfm?index=4091&sequence=0 (30 July 2003). The classification used in the analysis was identical to that used by the CBO.
37. I ran both fixed- and random-effects models for the premium and loss-ratio regressions. The results from the Hausman Test do not allow us to

reject the null hypothesis that coefficients estimated using random and fixed effects are the same. The fixed-effects estimate indicated that state award caps were associated with premiums that were 17.1 percent lower, and the random-effects estimate produced the same result. Thus, while the random-effects results are displayed, the fixed-effects results were the same for the tort-related variables. J.A. Hausman, "Specification Tests in Econometrics," *Econometrica* 46, no. 6 (1978): 1251-1271. Regression to the mean could also be an issue if states with high premiums adopting the award caps tended to return to the average over time. Thus, caps in high-premium states experiencing regression to the mean would appear more effective than laws in average- or low-premium states. Using 1985 data on states that had no award cap (about forty-five states), I estimated the premium regression (absent the tort variables). I estimated a second regression using the residuals (from the 1985 regression) as the dependent variable, a dummy set to 1 if the state ultimately adopted an award cap, as well as the other independent variables outlined in the text. If regression to the mean were an issue, the coefficient on the dummy variable would be positive and significant (that is, high-premium states adopted caps). The t-statistic on the dummy variable in this regression was -0.22. Since there was no apparent relationship here, there would be minimal (if any) bias due to regression to the mean. For a related test, see D. Dranove and K. Cone, "Do State Rate Setting Regulations Really Lower Hospital Expenses?" *Journal of Health Economics* 4, no. 2 (1985): 159-165.

38. The percentage changes reported here took each dummy variable from the log model and transformed them to a percentage change using the methods outlined in P. Kennedy, "Estimation with Correctly Interpreted Dummy Variables in Semi Logarithmic Equations," *American Economic Review* 71, no. 4 (1981): 801.
39. In a recent Georgia survey of physicians, a third of obstetrician/gynecologists and a fifth of family practitioners stated that they would stop performing high-risk procedures. Another 12 percent noted that they would not cover the emergency room in the future. *BNA's Health Care Policy Report* 11, no. 5 (2003): 162.
40. This means that premiums are lower than they would be in the absence of award caps. It does not imply that the premiums decline. Premiums in states with award caps have risen over time, but they are lower than they would be absent the award caps.
41. At issue is whether the reforms would reduce deadweight loss associated with defensive medicine and costs of administering the system and

improve deterrence and compensation. Some commentators are dubious about the prospects. See P. Danzon, *Medical Malpractice: Theory, Evidence, and Public Policy* (Cambridge, Mass.: Harvard University Press, 1985). However, any such analysis must also consider the impact that high premiums have on the availability of and access to medical care services.

42. California Medical Association and California Hospital Association, *Report on the Medical Insurance Feasibility Study*, ed. D.H. Mills (San Francisco: CMA/CHA, 1977); and D. Studdert et al., "Negligent Care and Malpractice Claiming Behavior in Utah and Colorado," *Medical Care* 38, no. 3 (2000): 250-260. These studies have generally concluded that approximately 3.7 percent of hospital admissions are associated with an adverse event and that approximately a quarter of these are due to negligence.

THE EVIDENCE

Noneconomic
Damage Caps
Help Reduce
Malpractice
Insurance
Premiums

By Richard S. Biondi and Arthur Gurevitch

It's said that bad things come in threes, and it looks as if medical malpractice crises are no exception. We are now officially entrenched in the third crisis since the mid-1970s. And if the first crisis was marked by the withdrawal of the Argonaut Insurance Co. from the malpractice market in 1975, then the current crisis may be said to have been highlighted by the December 2001 decision of St. Paul's to exit the market, followed by PHICO, Reliance, Frontier, and MIIX.

Several things have changed in the malpractice environment over the past 25 years. Most notably, the mid-1970s crisis led to a dramatic shift from commercial insurance companies to self-insurance and medical society-owned mutual insurance companies. The malpractice crisis of the mid-1980s resulted in significant tort reforms: many states updated joint-and-several liability laws, tightened statutes of limitations, modified collateral source rules, provided for period payment of damage

awards, and limited contingency fees.

Much of the debate in the current crisis centers around the limitation of noneconomic damages, the so-called caps on pain and suffering. Under this reform, juries would be required to quantify economic damages (such as lost wages and medical expenses) and noneconomic damages. Most of the current proposals allow awarding of the full economic damages but limit noneconomic damages to a maximum predetermined amount, typically \$250,000.

As evidence of the effectiveness of noneconomic damage caps, proponents point to California's 1975 Medical Injury Compensation Reform Act (MICRA), which introduced numerous malpractice reforms including the imposition of a \$250,000 cap on pain and suffering. It's clear that malpractice premiums are significantly and dramatically lower in California than in many other comparable states.

NCE IS IN

Interstate data unequivocally support the premise that caps on noneconomic damages are an effective means of reducing malpractice costs.

For example, according to *Medical Liability Monitor*, an obstetrician in Los Angeles had an annual premium of about \$60,588 in 2002, while OBs in New York City and Miami paid \$89,317 and \$201,376, respectively.

Opponents of noneconomic caps, which include trial lawyers and so-called consumer advocates, contend that:

- There is no malpractice claims crisis. In fact, they say, claims have not risen dramatically in the late 1990s.
- Noneconomic caps and other tort reforms have no effect on premiums and presumably no effect on claims. Accordingly, they argue, California's lower malpractice rates are a consequence not of tort reform but of subsequently imposed insurance regulations.
- The dramatic increase in malpractice premiums, the widespread unavailability of coverage, and the withdrawal (voluntary or otherwise) of insurance companies from the malprac-

tic market is due to insurance company mismanagement and the drop in stock market returns.

■ Malpractice claims are increasing at the rate of medical inflation while the spikes in premium are driven by an insurance cycle.

We don't doubt that there's an insurance cycle, that stock market returns and bond yields have fallen, and that there have been some mismanaged malpractice companies. However, in this article, we've tried to determine the extent to which the malpractice insurance market is loss-driven and if it follows sound economic principles. Rather than use piecemeal, anecdotal data, we chose to quantify malpractice effects across states and over time.

One of the best sources of malpractice claims data is the National Practitioner Data Bank (NPDB). The NPDB was established in 1990 to aid physician credentialing organizations by

FIGURE 1 Growth in NPDB Malpractice Losses

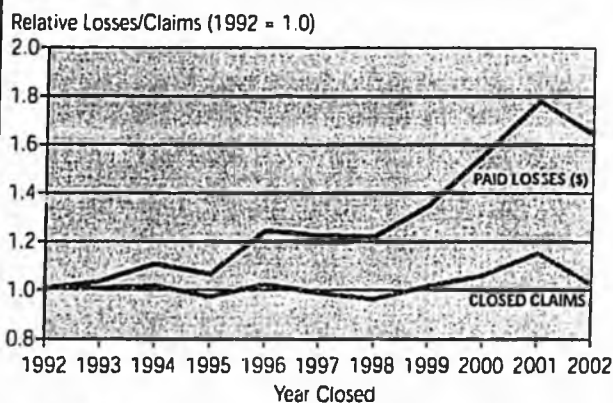


FIGURE 2 Average Loss per Physician in States With and Without Caps

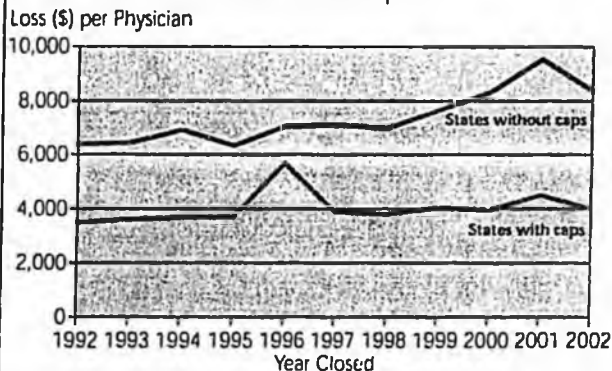


FIGURE 3 Malpractice Claims per Physician in States With and Without Caps

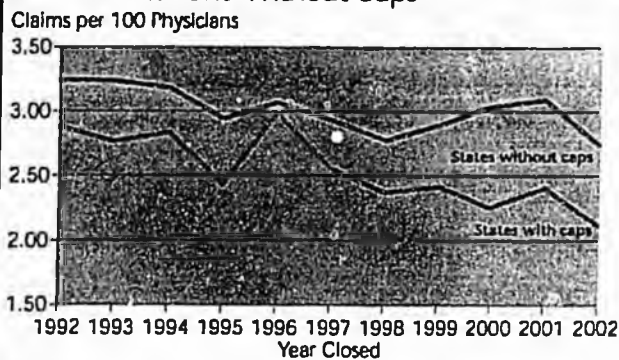


FIGURE 4 Differential in Loss per Physician in States With and Without Caps

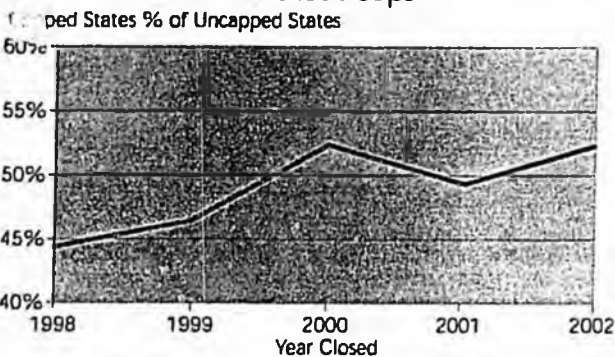


FIGURE 5 Malpractice Premium per Physician in States With and Without Caps

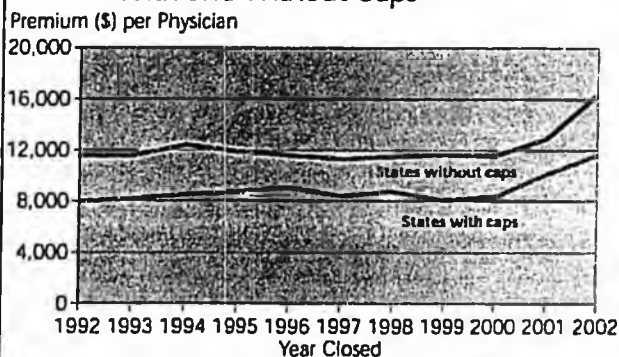
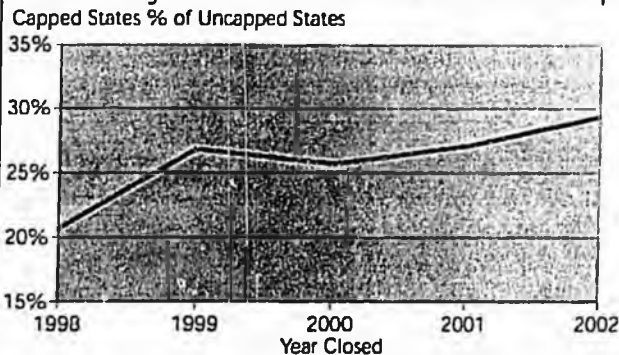


FIGURE 6 Differential in Malpractice Premium per Physician in States With and Without Caps



collecting data on malpractice claims and disciplinary actions against physicians. Most NPDB data are confidential; however, the NPDB releases unidentifiable claims data in the form of a Public Use Data File. Because of the legal mandate to report claims, the NPDB contains information on nearly every paid claim against physicians.

Working with the NPDB Public Use Data File, we approached our thesis by asking the following basic market questions:

1 Do claims data support the existence of a malpractice crisis?

Both the number of malpractice claims and the dollars of paid loss have grown since 1992, as fig. 1 clearly shows. Most noticeable is the dramatic jump in total paid losses at the end of the 1990s. We contend that this malpractice "crisis" is a reasonable label for a sustained 25 percent jump in payments over a two-year period!

2 Do tort reforms affect malpractice payments?

A more detailed look shows that malpractice losses are not uniformly high in every state. Fig. 2 shows that states with noneconomic damage caps have much lower NPDB losses per physician than do states without caps. Indeed, losses per physician in states with caps averaged 46 percent lower than states without caps.

3 Why do noneconomic damage caps have such a significant effect on per physician losses?

In general, caps on noneconomic damages apply only to verdicts and not specifically to settlements. Only a small minority of payments, perhaps as few as 5 percent, are made as a result of verdicts. However, a settlement is negotiated on the basis of the estimated cost of a claim as if it were to go to a verdict. Thus, if the cost of verdicts is reduced due to a cap, it follows that the cost of settlements will be reduced proportionately.

Second, noneconomic damages make up a surprisingly large percentage of total malpractice costs. Publicly available closed claim data from Texas and Florida (the NPDB doesn't distinguish between economic and noneconomic damages) indicate that noneconomic damages compose over two-thirds of the total cost of claims payments.

Third, caps generally apply to the total noneconomic damages for each medical malpractice occurrence, regardless of the number of physician and/or hospital defendants. So, for example, if \$1 million of noneconomic damages are awarded to a claimant from an occurrence involving three physician defendants, it's assumed that the entire \$1 million, not the allocated amounts to each of the three physician defendants, would be capped.

Fourth, noneconomic damage caps may have a secondary effect of reducing the frequency of malpractice cases. In an efficient economic environment, certain suits currently in the system might not be brought to court if the potential reward to the plaintiff—and the plaintiff's attorney—is too low. Fig. 3 shows that claim frequency is reduced by more than 15 percent in states with caps on noneconomic damages.

Finally, in addition to reducing the overall level of malpractice payments, tort reforms also reduce the growth rate of loss-

es (inflation or "trend"). Since 1998, the average losses per physician in non-tort-reform states increased at an average annual rate of 6.8 percent, while the annual increase in states with reforms has been 3.0 percent.

In contrast, during this period the consumer price index (CPI) increased at a 2.6 percent annual rate, and the medical CPI increased 4.2 percent per year. As a result of the different growth rates, the differential between losses for physicians in states with noneconomic caps and those in states without caps has grown from 44 percent to more than 52 percent since 1996 (fig. 4).

4 Do tort reforms affect malpractice premiums?

As an index of the total malpractice premium in each state, we examined the aggregate annual statement malpractice written premium (as reported by Thompson Financial Insurance Solutions) divided by the number of physicians in each state. This index lumps together hospital and physician premium. However, it should provide a reasonable estimate of malpractice premium growth, indexed to adjust for changes in the physician population.

Fig. 5 clearly shows that the premium in states with noneconomic caps is lower than in states without caps. The increase in premium didn't begin until after losses increased; it took insurance companies 18 to 24 months to process new claims data and to promulgate new rates (undoubtedly due to the filing and approval process).

The premium differential between states with caps and those without caps has also increased during the span of this most recent crisis (fig. 6). As with losses, it appears that tort reform has a relatively stronger impact as losses increase.

Note also that the premium differentials in fig. 6 are somewhat lower than the loss differentials shown in fig. 4. Is this because malpractice insurers are ripping off the insureds and pocketing the tort reform savings?

We don't think so. The premiums shown in fig. 6 include defense costs (LAE) and overhead costs. These costs do not decrease (or decrease less) as the result of noneconomic damage costs. Therefore, we would expect that the premium differential would track the loss differential but not be quite as extreme.

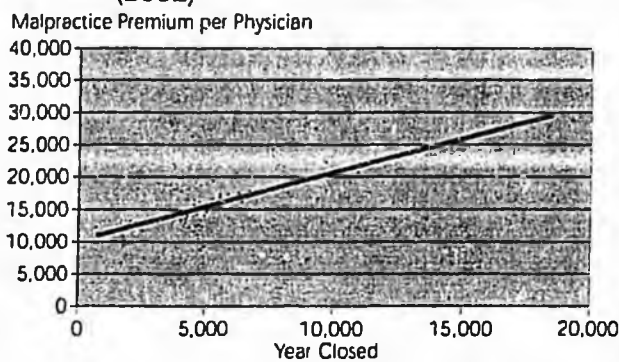
5 Are malpractice premiums rationally based on losses?

We have thus far shown that there has been a relatively sudden and dramatic increase in malpractice costs (a "crisis") and that states with noneconomic damage caps have lower claims and lower premiums than states without caps. But what of the more basic argument, that malpractice insurance is a (fundamentally) competitive market with market forces determining the rates?

Fig. 7 shows premium as a function of losses in 2002. The strong relationship shows that as losses increase, so does premium. Therefore, any type of reform that decreases losses should have a corresponding effect on premium.

Interstate data unequivocally support the premise that caps on noneconomic damages are an effective means of reducing malpractice costs. Noneconomic caps reduce malpractice payments, and malpractice payments are highly correlated with medical malpractice premiums.

FIGURE 7 Relationship Between Loss and Premium (2002)



In general, factors that bring down losses, including tort reforms, get translated into premium savings regardless of an economic or insurance cycle.

1 2002 occurrence rates. LA - SCPIE. Miami - FPIC. NYC - MLMIC. From *Medical Liability Monitor*.

2 The NPDS does not distinguish economic and noneconomic damages.

3 As reported by Thompson Financial Insurance Solutions.

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LIABILITY FOR MEDICAL MALPRACTICE: ISSUES AND EVIDENCE

A JOINT ECONOMIC COMMITTEE STUDY



Vice Chairman Jim Saxton (R-NJ)

Joint Economic Committee
United States Congress

May 2003

Executive Summary

The past several years have witnessed a considerable increase in the cost and impact of medical malpractice litigation. The result has been higher malpractice insurance premiums for health care providers, which in turn has led to higher costs for the health care system as well as reduced access to medical services. In 2001, premiums for medical malpractice insurance topped \$21 billion, double the amount ten years earlier.

This paper presents an analysis of the current medical malpractice system and examines the proposed federal reform legislation. The benefits of reforming of the medical liability system are significant and could:

- Yield significant savings on health care spending;
- Reduce unnecessary tests and treatments motivated out of fear of litigation;
- Encourage systematic reform efforts to identify and reduce medical errors;
- Halt the exodus of doctors from high-litigation states and specialties;
- Improve access to health care, particularly benefiting women, low-income individuals and rural residents;
- Produce \$12.1 billion to \$19.5 billion in annual savings for the federal government; and
- Increase the number of Americans with health insurance by as many as 3.9 million people.

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LIABILITY FOR MEDICAL MALPRACTICE: ISSUES AND EVIDENCE

I. INTRODUCTION

The past several years have witnessed a considerable increase in the cost and impact of medical malpractice litigation. Between 1994 and 2001, the typical medical malpractice award increased 176 percent to \$1 million. The result has been higher malpractice insurance premiums for health care providers, which in turn has led to higher costs for the health care system as well as reduced access to medical services. In 2001, total premiums for medical malpractice insurance topped \$21 billion, more than double the amount ten years earlier.

The liability system exists for two goals: to compensate the negligently injured, and to penalize and deter negligent acts. Unfortunately, in the medical arena the liability system fails on both accounts: the system does not direct appropriate compensation to victims of negligence, nor does it effectively deter negligent behavior. To the contrary, the medical liability system impedes efforts to improve patient safety, and may actually increase the number of errors. Moreover, the medical liability system imposes exorbitant costs on the health care system both directly and indirectly, costs that increase the number of Americans without health insurance and add to the federal deficit. Although some individuals fare well under the present system, the system as a whole does not meet the needs of the negligently injured or the general population. The negative aspects of the medical liability system have a particularly adverse effect on women, low-income individuals and rural residents.

For these reasons, medical malpractice reform has received considerable attention in the U.S. Congress and state legislatures. Reform of the medical liability system could yield significant benefits that could:

- Yield significant savings on health care spending;
- Reduce unnecessary tests and treatments motivated out of fear of litigation;
- Encourage systematic reform efforts to identify and reduce medical errors;
- Halt the exodus of doctors from high-litigation states and specialties;
- Improve access to health care, particularly benefiting women, low-income individuals and rural residents;
- Produce \$12.1 billion to \$19.5 billion in annual savings for the federal government; and
- Increase the number of Americans with health insurance by up to 3.9 million people.

This paper presents an analysis of the current medical malpractice system, focusing on the cost and impact excessive litigation has on the affordability and accessibility of health care. Legislative remedies are described, as well as the potential impact of such reforms.

II. THE PRESENT SYSTEM FOR MEDICAL LIABILITY

The liability system has two ostensible goals: to compensate the negligently injured, and to deter negligent behavior. In health care, the tort system allows individuals who are injured through the negligence of their health care provider to seek compensation through litigation. In theory, negligent behavior is deterred by making the negligent party bear the burden of the award.

Medical malpractice claims are mainly initiated in state courts. Although laws vary by state, in general the legal standard for malpractice has four elements:¹

- The presence of a physician-patient relationship that establishes the duty of care;
- An adverse outcome (actual injury or harm);
- Negligence by the provider (failure to meet the standard of care); and
- Direct causality between the negligence and the adverse outcome

In the context of medical malpractice, negligence depends on "conduct which falls below the standard established by law for the protection of others against unreasonable risk of harm."² For doctors and other health care providers, this standard means that doctors should provide the level and type of care that is customary and usual in the medical community or in their specialty field.

The most common claim for medical harm is the medical malpractice claim, which applies directly to the negligent physician. However, medical malpractice is not the only legal option available to claimants seeking redress for damages.³ Physicians are also open to claims of intentional torts.⁴ Medical device and pharmaceutical manufacturers can be sued under such legal doctrines as product liability, negligence, strict liability and breach of warranty. Hospitals and managed care organizations, which may be exempt from many malpractice claims, can be sued under the principles of vicarious liability, joint and several liability and corporate negligence.

Extent of Medical Malpractice

The best estimates on the frequency of malpractice are based on two separate large-scale studies of hospitalizations, one in New York and the other in Colorado and Utah. Although the studies were done nearly a decade apart, they revealed remarkable similarities in the pattern of malpractice claims. In the New York study, based on 1984 data, 1.0 percent of hospitalizations

¹ W. Page Keeton et al., *Prosser and Keeton on the Law of Torts*, 5th edition (St. Paul, MN: West Publishing Co., 1984), 164-165.

² American Law Institute, *Restatement (Second) of Torts* (St. Paul, MN: American Law Institute Publishers, 1965), §282.

³ For a review of these issues, see: Dan B. Dobbs, *The Law of Torts* (St. Paul, MN: West Group, 2000), 666-671, 674-679; and U.S. General Accounting Office, *Medical Liability: Impact on Hospital and Physician Costs Extends Beyond Insurance*, GAO/AIMD-95-169 (September 1995), 21.

⁴ Henry Cohen, "Medical Malpractice Liability Reform: Legal Issues and Fifty-State Survey of Caps on Punitive and Noneconomic Damages," Congressional Research Service, Report RL31692, 2/6/2003.

were found to have injuries caused by negligence.⁵ By comparison, the Colorado and Utah study, based on 1992 data, indicated that less than 1.0 percent of hospitalizations had injuries due to negligence.⁶ The malpractice rate for the health care system as a whole is likely significantly lower.⁷

The incidence of malpractice, however, is quite distinct from the filing of malpractice claims. A defining feature of the medical liability system is that most events of malpractice do not result in a legal claim, and most claims of malpractice are not tied to any act of negligence. Overall, approximately 80 percent of malpractice claims show no signs of a negligent injury.⁸ Conversely, only about 3 percent of injuries due to negligence result in a claim.⁹ These figures suggest that the medical liability system malfunctions on a fundamental level.

It is not clear why such a small portion of negligent injuries lead to a malpractice claim. One possible reason is that the injury was too minor to warrant a lawsuit. Data show that most negligent injuries are only moderately incapacitating.¹⁰ Another possible reason is that attorneys, who typically work on contingency fees arrangements, are only willing to take on claims for "attractive" clients (i.e., sympathetic victims with large damage claims). Alternatively, some people are simply not litigious in nature, or do not wish to damage a long-standing relationship with their doctor, especially if the doctor exhibits good communication and empathy skills. Yet another explanation is that patients simply do not recognize that they have suffered an injury due to negligence.

The Market for Medical Liability Insurance

The role of malpractice insurance is to pay for legal defense costs and damages inflicted through negligence by a doctor or medical professional. The market for malpractice insurance consists of two broad categories of insurance: conventional and alternative. The conventional market provides coverage through traditional insurance companies like A.I.G., C.N.A. Insurance or the St. Paul Companies. Malpractice insurance purchased through traditional means totaled \$7.2 billion in 2001.¹¹ This figure, however, excludes the much larger alternative market. The

⁵ Harvard Medical Practice Study, *Patients, Doctors and Lawyers: Studies of Medical Injury, Malpractice Litigation and Patient Compensation in New York* ([Cambridge, MA?]: 1990), 3.

⁶ Eric J. Thomas et al., "Incidence and Types of Adverse Events and Negligent Care in Utah and Colorado," *Medical Care* 38 (2000): 261.

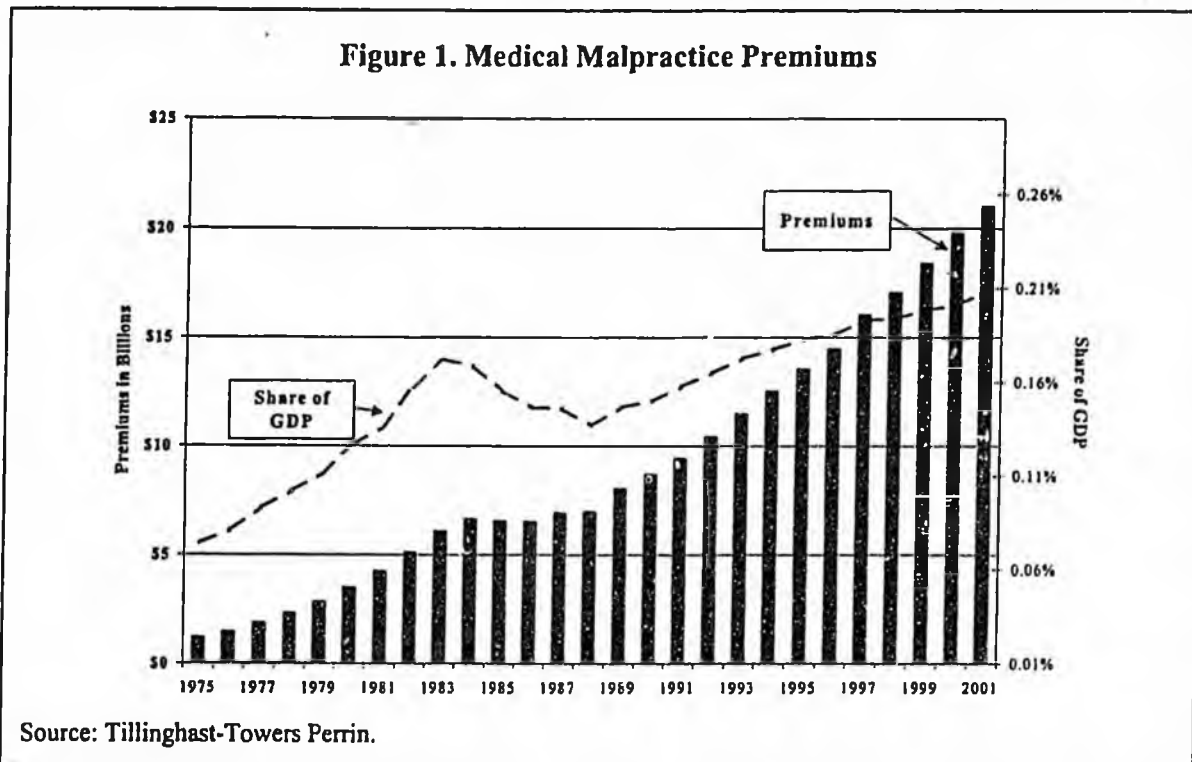
⁷ Preventable injuries are more likely to occur among more complicated cases, such as those requiring hospitalization. Presumably, therefore, medical care provided outside of a hospital setting would have a much lower rate of malpractice, thus lowering the overall rate.

⁸ Published data indicate 83 percent of New York claims and 78 percent of the Colorado-Utah claims did not involve negligence. Harvard Medical Practice Study, 7-34; and David M. Studdert, Eric J. Thomas, Helen R. Burstin, Brett I.W. Zbar, E.J. Orav, and Troyen A. Brennan, "Negligent Care and Malpractice Claiming Behavior in Utah and Colorado," *Medical Care* 38 (2000): 253.

⁹ Published data indicate that there was no malpractice claim for 97 percent of New York and 97 percent of the Colorado-Utah incidents of negligent injuries. Harvard Medical Practice Study, 7-37; and Studdert et al., 255.

¹⁰ See A. Russell Localio et al., "Relation between Malpractice Claims and Adverse Events Due to Negligence," *New England Journal of Medicine* 325, no. 4 (July 1991), 247 (showing that 58 percent of negligent injuries required less than six months of recovery); and Thomas et al., 267 (showing that about 95 percent of negligent injuries resulted in non-permanent disability).

¹¹ A.M. Best data cited in Insurance Information Institute, *The I.I.I. Fact Book 2003* (New York, NY: Insurance Information Institute, 2002), 27.



alternative market comprises mechanisms such as joint underwriting associations, captive insurance companies and risk retention groups, all of which are ways groups of individuals, organizations or trade associations can come together and form an insurance company that they themselves run.¹² The alternative market for malpractice insurance is roughly twice as large as the traditional market. Altogether, total premiums for medical malpractice liability insurance amounted to \$21.0 billion in 2001, according to the actuarial consulting firm Tillinghast-Towers Perrin.¹³ Physicians purchased the bulk (60 percent) of malpractice insurance, followed by hospitals (28 percent) and other insureds (12 percent).¹⁴

Over the last ten years (1992-2001), premiums for medical malpractice insurance more than doubled, increasing an average of 8.1 percent per year. That rate is three times faster than the overall rate of inflation over the same period, and double the rate of inflation for medical care.¹⁵ Relative to the size of the economy, measured as share of gross domestic product (GDP), malpractice insurance has increased every year since 1989 and stands three times the level it was in 1975. Figure 1 displays the pattern of premium levels and GDP share for 1975 to 2001.

Accompanying the rise in premiums has been a remarkable change in the structure of the malpractice insurance market. Most of the growth in malpractice insurance in the past decade has occurred in the alternative markets. Roughly 70 percent of premium growth over 1992-2001

¹² For more information on alternative markets, see Conning & Co., *Alternative Markets: An Ever-Evolving Mosaic* (Hartford, CT: Conning & Co., 1999).

¹³ Tillinghast-Towers Perrin, *U.S. Tort Costs: 2002 Update - Trends and Findings on the Costs of the U.S. Tort System* (New York, NY: Tillinghast-Towers Perrin, 2003), Appendix 2.

¹⁴ *Ibid.*, 16.

¹⁵ U.S. Department of Labor, Bureau of Labor Statistics, "Consumer Price Index," [March 2003], online at <http://www.bls.gov/cpi/home.htm>.

is attributable to the increase in alternative markets, versus just 30 percent due to traditional markets. The term alternative markets, as used in this paper, refers to forms of malpractice insurance that do not go through a traditional third-party insurer. Common alternative insurance mechanisms include self-insurance (where a firm or group of firms assume all or much of their risk exposure themselves), captive insurers (which are wholly-owned subsidiaries of the firms they insure) and risk retention groups (a group of firms or individuals that come together to form a limited-purpose insurer). Alternative forms of malpractice insurance are often created for the sole, dedicated purpose of providing such coverage and are controlled by the medical professionals they serve. Alternative insurers focus more on providing stable coverage rather than on maximizing profits, thus limiting the risk such organizations will exit the market due to adverse market conditions.¹⁶ These features, combined with the decrease in the availability of traditional coverage described below, have made alternative markets a very popular source for malpractice insurance.

A crucial reason for the growth of the alternative market is rapid deterioration in the financial performance of the sector. For much of the 1990s, the medical malpractice line of insurance was highly profitable. This profitability attracted many firms to compete for malpractice coverage, moderating price increases. Recent trends, however, have created an environment that has reduced revenues and increased costs, causing medical malpractice to become one of the most unprofitable insurance lines. In 2001, malpractice insurers paid out \$1.34 in claims and costs for every \$1.00 it received in revenue (including investment income).¹⁷

Four factors account for the structural changes that undermined the profits of malpractice insurers, according to James Hurley of the American Academy of Actuaries.¹⁸ First, a key component of the financial deterioration has been the escalating size of malpractice claims. The increase in the average cost of settlements and jury verdicts (discussed below), particularly very large awards, led to many rate increases. Second, insurers have faced increased reinsurance costs. Reinsurers, who provide insurance to insurance companies, posted weaker financial results in recent years, forcing them to charge their clients (i.e., insurers) higher rates. A third contributing factor has been deteriorating returns on the investment assets of insurers, although the overall impact of this factor has often been overplayed as stocks only account for about 15 percent of assets held by insurance companies. Finally, in the early and mid-1990s, insurer financial results benefited from favorable reserve development. In practical terms, what happened is that some money set aside for potential claims filed in the 1990s turned out to be unnecessary, and was eventually converted to profits. This short-term phenomenon has run its course and thus insurers no longer can count on this "bonus" profit.

Recent developments in the medical malpractice market reflect these trends. Of particular concern is the recent decrease in the availability of malpractice insurance. Weak financial results have driven several insurers from the market. According to the American

¹⁶ For more information on these trends, see Conning & Co., *Medical Malpractice Insurance: A Prescription for Chaos* (Hartford, CT: Conning & Co., 2001), 6, 81-91.

¹⁷ James Hurley, American Academy of Actuaries, Prepared Testimony to the Subcommittee on Health, Committee on Energy and Commerce, U.S. House of Representatives, 2/27/2003.

¹⁸ *Ibid.*

Academy of Actuaries, the industry's premium capacity has dropped 15 percent.¹⁹ The decrease in firms willing to provide malpractice insurance is evidenced by the complete withdrawal from the market of several malpractice insurers, including Phico, MIIX, Frontier and Reciprocal of America. In addition, St. Paul (the largest commercial insurer, covering 42,000 doctors) has ceased writing or renewing policies for malpractice.²⁰

The combination of deteriorating profitability, reduced supply and the structural market changes has created an environment where coverage can be extremely difficult to obtain and in which reduced competition makes significant price increases more common. Moreover, these changes are not merely part of a short-term insurance cycle. Rather, the negative developments (such as increasing claim size and rising reinsurance costs) are likely to be permanent in nature while the positive developments that boosted profits in the past (such as favorable reserve development) are short-lived. In fact, insurers do not exit an insurance market completely simply due to short-term cycles. They only do so if the long-term outlook is so bleak as to make continued business operation untenable.²¹

The growth in aggregate premiums reflects the growth in premiums charged to individual doctors. Table 1 lists the median rate increases for medical liability insurance premiums for the last three years by area of practice.²² As the data show, internists have experienced three consecutive years of at least 15 percent premium hikes. The typical rate increase has tripled for general surgeons and doubled for obstetricians/gynecologists (Ob/Gyn). The high cost of the current medical liability system most adversely impacts obstetricians, most surgical-related specialties (especially neurosurgeons), and emergency room physicians.²³

	2000	2001	2002
Internists	15.0%	15.0%	17.6%
General Surgeons	9.6%	14.6%	29.1%
Obstetricians/Gynecologists	7.0%	12.5%	15.3%

Source: *Medical Liability Monitor*.

Although the direct payment of malpractice insurance premiums falls on the insured doctor or hospital, the costs are passed on to insured individuals, to one degree or another, in the form of higher premiums. In 2001, malpractice premiums averaged about \$87 per insured individual, or close to \$350 per family of four. These estimates do not include the costs of defensive medicine (treatment decisions motivated to avoid litigation rather than to benefit the patient), which can be three to six times greater than malpractice premiums. It is inevitable that those costs passed on to consumers adversely impact the affordability of health insurance.²⁴

¹⁹ *Ibid.*

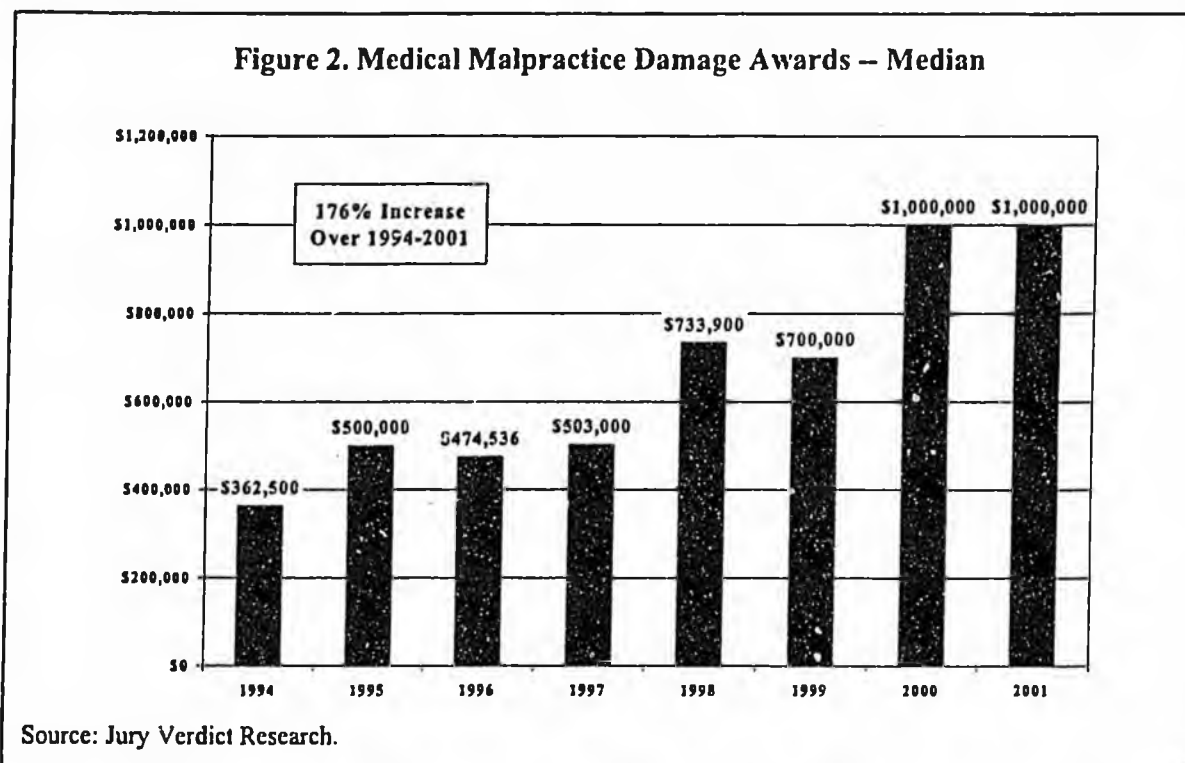
²⁰ Joseph B. Treaster, "Doctors Face a Big Jump in Insurance," *New York Times*, 3/22/2002

²¹ See Conning & Co., *Alternative Markets*, 65.

²² Figures include only rate increases, though rate decreases in the past three years have become increasingly uncommon. "Hard Market Wallops Physicians; Average Rate Increases More Than Double Those in 2001," *Medical Liability Monitor* (October 2002); and "Medical Liability Rates Continue Their upward Swing," *Medical Liability Monitor* (October 2001).

²³ See *infra* notes 67 to 85.

²⁴ See the sections "Demand for Health Insurance: Impact on Affordability" and "Impact on the Number of Uninsured" below for a more detailed discussion of this effect.



Malpractice Damage Awards

One of the key drivers of costs for medical malpractice insurance is the recent surge in the size of damage awards in lawsuits. As Figure 2 shows, the typical (median) damage award in medical malpractice cases jumped 176 percent from 1994 to 2001, according to the research firm Jury Verdict Research.²⁵ The latest data indicate that the median award amount now tops \$1 million, representing annual growth of 15.6 percent per year over 1994-2001, while the average award reached \$3.9 million in 2001. The Physician Insurers Association of America (PIAA), representing firms that provide insurance to physicians, estimates that the average out-of-court settlement in 2001 was approximately \$299,000 per individual defendant,²⁶ although most malpractice claims involve at least two defendants.²⁷

²⁵ Jury Verdict Research, *Current Award Trends in Personal Injury: 2002 Edition* (Horsham PA: LRP Publications, 2003), 18. The only alternative national source of annual data on malpractice settlements is the National Practitioner Data Bank (NPDB) in the U.S. Department of Health and Human Services. However, both the General Accounting Office and the Inspector General's office have reported on extensive data problems in the NPDB that make its data unreliable, incomplete and biased. U.S. General Accounting Office, *National Practitioner Data Bank: Major Improvements Are Needed to Enhance Data Bank's Reliability*, GAO-01-130 (November 2000); and U.S. Department of Health and Human Services, Office of the Inspector General, *Managed Care Organization Nonreporting to the National Practitioner Data Bank: A Signal for Broader Concern*, OEI-01-99-00690 (May 2001).

²⁶ Lawrence E. Smart, Physician Insurers Association of America, Prepared Testimony to the Committee on the Judiciary, U.S. Senate, 2/11/2003.

²⁷ The median number of defendants in medical malpractice tort cases was 2.0 in 1996. U.S. Department of Justice, Bureau of Justice Statistics, *Tort Trials and Verdicts in Large Counties, 1996*, NCJ 179769 (Washington, DC: Bureau of Justice Statistics, 2000), 2.

There has also been a large jump in million-dollar verdicts. In 1995-97, a little more than one in three (36 percent) cases resulted in an award of \$1 million dollars or more. By 1998-99, the rate of million-dollar awards reached 43 percent. By 2000-01, more than one-half (54 percent) of medical malpractice awards were at least \$1 million dollars, and one-quarter of all awards today exceed \$2.7 million.²⁸

The basis of malpractice claims against physicians generally falls into one of three categories. Data from a large malpractice insurer indicate that failure to diagnose is the most common basis for a claim, at 28 percent of claims. Surgery-related claims account for 27 percent claims, and improper treatment 26 percent of claims.²⁹ The remaining 19 percent were for claims such as adverse reaction to anesthesia, injection site injuries and lack of informed consent.

Punitive damages are relatively infrequent in malpractice cases, occurring in 2 percent of cases during 1999-2001.³⁰ This figure somewhat understates the impact of such awards, however, since punitive damages can be enormous. A survey of jury verdicts in malpractice cases in 1996 found that the median amount of punitive damages, when awarded, was \$2.5 million.³¹

The large majority of malpractice claims never reach a trial, as seen in Table 2. Three-fifths (61 percent) of claims are either dropped or dismissed, while one-third (32 percent) are settled out of court prior to trial.³² Of those cases that do go to court, defendants prevail 60

Table 2. Claims Disposition and Defense Costs

Claim Disposition	Share of Claims	Average Defense Cost
Dropped or Dismissed	61%	\$16,743
Settled	32%	\$39,891
Trial Verdict		
Defense verdict	6%	\$85,718
Plaintiff verdict	1%	\$91,423

Source: Physician Insurers Association of America.

dismissed, defense costs averaged nearly \$17,000.

percent to 80 percent of the time.³³ The relatively low success rate is consistent with the assertion that many malpractice claims are without merit. Even if most claims that reach trial lose, health care professionals still incur large costs to defend themselves. According to the Physicians Insurer Association of America, defense costs averaged close to \$86,000 per claim in cases where the defendant won at trial (Table 2).³⁴ Even in cases where the claim was dropped or

In terms of compensation for negligent injuries, the system undoubtedly provides substantial compensation to some claimants, such as in cases of gross negligence or when the

²⁸ Jury Verdict Research, 43.

²⁹ U.S. General Accounting Office, *Medical Liability*, 20-21.

³⁰ Jury Verdict Research, 20.

³¹ U.S. Department of Justice, 7.

³² Smarr.

³³ Smarr (reporting a plaintiff recovery rate at trial of 20 percent); U.S. Department of Justice (reporting a plaintiff recovery rate at trial of 23.4 percent); and Jury Verdict Research, 46 (reporting a plaintiff recovery rate at trial of 39 percent).

³⁴ Smarr.