DOCUMENT RESUME

ED 386 128 HE 028 536

AUTHOR	Greiner, Keith
TITLE	Iowa Chiropractic Students Outlook for Practitioners and Need for State-Funded Assistance.
INSTITUTION	Iowa Coll. Student Aid Commission, Des Moines.
PUB DATE	Jan 95
NOTE	28p.
PUB TYPE	Reports - Evaluative/Feasibility (142)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Higher Education; *Labor Demands; Labor Needs; Loan Default; Loan Repayment; Medical Education; *Student Financial Aid; *Student Loan Programs
IDENTIFIERS	*Chiropractic Colleges; Chiropractic Education; Chiropractors; *Iowa

ABSTRACT

This state-mandated study examined the needs of Iowa chiropractic students and the Iowa demand for chiropractic health care in order to determine the feasibility of establishing a chiropractic forgivable loan program. The project used financial aid data and repayment rate data to evaluate the need for financial aid for chiropractic students; staffing levels and projections; labor data; population data; use of chiropractic services by health maintenance organizations; and community recruitment information to assess the demand for chiropractic practitioners. Results of the analysis include: loans account for 82 percent of all student aid to chiropractic students; 98 percent of Palmer College of Chiropractic (Iowa) graduates repay their loans; these students usually borrow about $62,000 for their education; graduating students typically take entry-level positions that pay about $30,000 per year; graduating chiropractic physicians may create actual market demand for their services; 43 states have fewer chiropractic physicians per resident than Iowa; and about 35 Doctors of Chiropractic who graduate from Palmer College of Chiropractic each year locate in Iowa; and job market projections estimate that there are about 29 openings for such doctors each year. The comments of Palmer College of Chiropractic are included. (Contains 12 references.) (JB)

IOWA CHIROPRACTIC STUDENTS OUTLOOK FOR PRACTITIONERS AND NEED FOR STATE-FUNDED ASSISTANCE

IOWA COLLEGE STUDENT AID COMMISSION

Keith Greiner
Research Director

January, 1995

IOWA COLLEGE STUDENT AID COMMISSION

Iowa Chiropractic Students
Outlook for Practitioners
and
Need for State-Funded Assistance
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I. EXECUTIVE SUMMARY

The 1994 Iowa General Assembly called on the Iowa College Student Aid Commission to examine the needs of Iowa chiropractic students and the demand for chiropractic health care and to determine the feasibility of establishing a chiropractic forgivable loan program.

Highlights from the study include:

- Loans account for 82 percent of all student aid provided to chiropractic students.
- Palmer College of Chiropractic graduates repay loans at the high rate of about 98 percent.
- Chiropractic physicians usually borrow about $62,000 to fund their education expenses.
- The typical income of a graduating chiropractic physician entering entry-level positions with established chiropractors (associateships) is about $30,000.
- About 35 Doctors of Chiropractic who graduate from Palmer College of Chiropractic locate in Iowa each year. Job market projections estimate approximately 29 openings each year.
- Some studies report that the number o raduating chiropractic physicians creates the actual market demand.
- Forty-three states have fewer chiropractic physicians per resident than Iowa.
- A county distribution of chiropractic physicians per resident includes several counties which have substantially unfavorable ratios.
- Given limited available research, a definition of chiropractic need within Iowa was deemed to be beyond the scope of this study.

II. INTRODUCTION

The 1994 Iowa General Assembly called on the Iowa College Student Aid Commission to examine the needs of Iowa chiropractic students and the demand for chiropractic health care, and to determine the feasibility of establishing a chiropractic forgivable loan program. The authorizing language from House file 2411 follows: **"The college student aid commission shall conduct a study, in cooperation with Palmer college of chiropractic, of the financial needs of Iowa resident chiropractic students and the demand for chiropractic health care practitioners in Iowa to determine the feasibility of establishing a chiropractic forgivable loan program modeled after the osteopathic forgivable loan program."**

This report addresses these issues and is divided into the following sections.

- Aggregate financial need of Iowa chiropractic students
- Demand for chiropractic services
- Concluding remarks
- Comments by Palmer College of Chiropractic.

References to Palmer Chiropractic University and Palmer College of Chiropractic will be found throughout this report. The Palmer Chiropractic University System is the umbrella organization of Palmer College of Chiropractic. The University System consists of Palmer College of Chiropractic in Davenport and Palmer College of Chiropractic-West in San Jose, California. Data attributed to Palmer generally was supplied by the Palmer Chiropractic University System Administration on behalf of Palmer College of Chiropractic of Davenport. Staff is grateful to Dr. Douglas Hoyle, Assistant to the Chief Operating Officer of the Palmer Chiropractic University System for his assistance with this report. The terms "Doctor of Chiropractic," "DC" and "Chiropractor" also will be found throughout the report and should be treated as synonymous.

III. AGGREGATE FINANCIAL NEED OF IOWA CHIROPRACTIC STUDENTS

The aggregate financial need of Iowa chiropractic students was evaluated by examining two key student aid factors:

- The mix of financial aid used to finance program costs including loan and non-debt funding.

- The ability to repay loans indicated by the typical payment rates for chiropractic graduates.

FINANCIAL AID

The financial aid mix for Fiscal Years 1989 through 1993 is summarized in Table 1. Table 1 is based on annual financial aid reports filed with the Iowa College Student Aid Commission.

Loans accounted for 90.6 percent of all financial aid dollars provided to students at Palmer College of Chiropractic in Fiscal Year 1989. In Fiscal Year 1993, loans accounted for 82.1 percent of the reported aid. Despite the proportionate reduction in loan assistance, the average loan amount increased by 33.6 percent. During that same period of time, Palmer College of Chiropractic tuition and fees reported to the Commission increased by 34.9 percent. Palmer College ranks seventh out of fourteen Council on Chiropractic Education (CCE) accredited chiropractic colleges for total 1994 program costs(Table 2).

Additional discussion of the growing debt burden for chiropractic students is described in the attached memorandum provided by Palmer College of Chiropractic.

LOAN REPAYMENT RATES

Most graduates of Palmer College of Chiropractic are repaying the loans they received from the Federal Family Education Loan Program (FFELP). The latest available data for these programs includes Palmer students who graduated between October 31, 1991, and September 30, 1992, and have continued to make payments for the next two years (Table 6). The data show that 97.5 percent of Palmer graduates are paying their loans, compared to 92.9 percent for all borrowers with loans guaranteed by the Iowa College Student Aid Commission and 85.1 percent for all borrowers with loans guaranteed under the FFELP.

Palmer College of Chiropractic payment rates are well above those of other chiropractic institutions. When payment rates for graduates of Palmer College of Chiropractic were compared to graduates of other accredited chiropractic institutions, Palmer College of Chiropractic ranked in the top half of all 14 institutions during two of the three most recent years reported by the United States Department of Education. See Table 6 for comparative data. (United States Department of Education, 1993). The high payment rates of Palmer College of Chiropractic are a very positive sign when also considered with Iowa College Student Aid Commission data showing the graduates' average FFELP loan balances.

FFELP loans represented about half the total amount borrowed by Palmer graduates in FY 1989 and about a third of the total amount borrowed by those who graduated in FY 1994. Data provided by Palmer College of Chiropractic show that average debt upon graduation was $41,559 in FY 1989 and $62,358 in FY 1994. This is an increase of 50 percent compared to an increase in tuition of 42 percent over the same time period. The national average salary of recent chiropractic graduates entering entry-level positions with established chiropractors (associateships) was about $30,000 in 1991.

IV. DEMAND FOR CHIROPRACTIC PRACTITIONERS

Staff contacted state and national chiropractic and health services representatives and researchers to identify an appropriate methodology for establishing the need for chiropractic care. Staff also reviewed published health care staffing reports. These sources suggested reviewing the following indicators.

- Staffing levels and projections
- Labor market data
- Ratios of population to chiropractic practitioners
- Utilization contracts for chiropractic services by health maintenance organizations
- Community recruitment

STAFFING LEVELS AND PROJECTIONS

A 1980 report from the US Department of Health and Human Services, indicated that the number of practicing Doctors of Chiropractic was expected to increase by 35 to 48 percent by 1985. (USDHHS, 1980, p. 123.) Actual data for the years 1980 through 1986 indicated a 36.7 percent increase in the number of practicing Doctors of Chiropractic. (USDHHS, 1990, pps. XV-12 and XV-14.). The 1980 report suggested that by the year 2000 the increase over 1980 levels will be 105 percent.(Table 3) The 1980 study also indicated that over 79 percent of practicing Doctors of Chiropractic and recent graduates believe that more Doctors of Chiropractic are needed in the states where they are practicing. Over 60 percent

indicated that more Doctors of Chiropractic are needed in the counties where they practice. Those practicing in communities of less than 2,500 population did not indicate a need for expanded services. (USDHHS, 1980, pps. 131 - 136)

Survey responses from Doctors of Chiropractic indicated that the availability of chiropractors, "appears to create its own demand for services." That is, as more students graduate from chiropractic schools, the usage of chiropractic services increases. (USDHHS, 1980, page 127).

A US Department of Health and Human Services national study titled *"Health Personnel in the United States, Eighth Report to Congress, 1991"* challenged the quality of data used to project expansion of practicing Doctors of Chiropractic. That report summarized the difficulties in identifying the future need for Doctors of Chiropractic. The Report stated;

> "To project either the supply of, or requirements for chiropractors is difficult. At present there are insufficient data on which to base valid projections. Data from the Bureau of Labor Statistics (BLS) are based on a small sample. Professional association data are based on their membership, which only represents 30 to 38 percent of the active supply. In order to improve the availability of supply data the Bureau of Health Professions is assisting the FCLB [Federation of Chiropractic Licensing Boards] and the ACA [American Chiropractic Association] in improving their data base." (USDHHS, 1991, p.165)

As of this writing, national need data from the sources described above, has not yet been published.

In 1994 the Foundation for Chiropractic Education and Research published a report exploring the use of Doctors of Chiropractic as primary care providers. The report advanced a rationale for chiropractors serving as primary care providers and explained circumstances in which they currently provide primary care services. The report indicates that in communities under 10,000 population, 48 percent of the chiropractors are serving three out of four patients as, "first contact care provider." (Callahan et. al., 1994, p. 6)

LABOR MARKET DATA

The labor market information section of the Iowa Department of Employment Services analyzed trends in chiropractic service and indicated that the 1992 employment level of 820 chiropractors should grow by a net of 12.2 percent

or one hundred chiropractors by the year 2000. Average annual openings due to growth are projected to be 13 and average annual openings due to replacement are expected to be 16 for a total of 29 expected openings. (Iowa Department of Employment Services, 1993 pps. 14 and 28.)

Location of Alumni data from the *Information Digest of Postsecondary Education in Iowa* and Palmer Chiropractic University suggest that about seven percent of Palmer graduates remain in Iowa over the long term. For the last ten years, an average of 35 graduates remained in Iowa each year. This is a reasonable match with the Department of Employment Services forecast of growth.

RATIO OF POPULATION TO CHIROPRACTIC PRACTITIONERS

Measurements of the population per Doctor of Chiropractic show the average size of the population being served by Doctors of Chiropractic. Those counties with larger ratios might be thought of as being under served, relative to those with lower ratios. Using 1994 Iowa data, it was found that the average Iowa county has 4,262 persons per Doctor of Chiropractic. The highest population per chiropractor ratio was in Mills county which had a ratio of 13,386 to one, and the lowest was Scott county with a ratio of 858 to one. (Table 4) Officials at Palmer Chiropractic University believe these ratios indicate a distribution problem for those counties with an unfavorable service level ratio.

Nationally, in 1988 there was an average of 6,318 persons for each Doctor of Chiropractic (Table 3). Data reported by the Morgan Quitno Corporation for 1989 indicated that Iowa ranked eighth best in the nation for population per Doctor of Chiropractic and forty-third from the best for population per Allopathic and Osteopathic physician. The ranking included data for all fifty states and the District of Columbia. (Morgan, et. al.1993 pps. 384, 385, 425, and 426) (Table 5)

CONTRACT UTILIZATION BY HEALTH MAINTENANCE ORGANIZATIONS

Health Maintenance Organizations contract with health care providers to serve their customers. Therefore, the ratio of HMO customers to contracted Doctors of Chiropractic might provide an indicator of the optimal ratio of population per Doctor of Chiropractic. Unfortunately, our contacts with HMO's indicated this information is either not collected or is proprietary. In either case, the information could not be obtained for this report.

COMMUNITY RECRUITMENT

Communities in need of Doctors of Chiropractic would be expected to offer incentives such as tuition payment, low interest loans, office equipment or building space as incentives to practice in the community. These incentives are common among communities seeking expanded service by allopathic and osteopathic physicians. Conversations with agency representatives who might have received information about such incentives indicated no knowledge of any Iowa communities using incentives to attract Doctors of Chiropractic.

IV. SUMMARY

The legislative directive indicates that there is a growing interest in Chiropractic health care. Chiropractors are making a concerted effort to identify and define their skills as appropriate for "first contact care providers," (Callahan et. al.) and the utilization of Chiropractors as first contact providers appears to be growing in smaller communities. Also, as pointed out in the 1991 US Department of Health and Human Services study, additional Doctors of Chiropractic would be expected to result in additional chiropractic usage.

Financially, Doctors of Chiropractic are using more debt to finance their medical educations than former graduates. Nevertheless, the high payment rate among graduates suggests that most are able to repay their loans. On the other hand, graduating Doctors of Chiropractic accumulate an average debt of $60,000 while earning approximately $30,000 per year upon graduation.

Iowa's ratio of Doctors of Chiropractic to population is favorable compared to most states. Graduating Chiropractors seem to be filling the available openings for practitioners in the state. However, a distribution of Chiropractors per population for each county in Iowa suggests that there are some counties with low ratios of population to Doctors of Chiropractic. Officials at Palmer Chiropractic University point out that the low ratios in these counties indicate a need to encourage Doctors of Chiropractic to locate in those areas.

V. COMMENTS BY PALMER COLLEGE OF CHIROPRACTIC

Palmer College of Chiropractic is very pleased to be able to provide input to this report. We believe the type of forward thinking exhibited by the 1994 Iowa General Assembly in requesting feasibility of establishing a chiropractic

forgivable loan program will contribute greatly to the health care of Iowa citizens.

With respect to the preceding report conducted by the Iowa College Student Aid Commission, we appreciate the efforts of the Commission and those particularly of Keith Greiner, Director of Research of the Iowa College Student Aid Commission. His guidance and consideration in working with those of us at Palmer was invaluable.

We consider the report to be exceedingly enlightening in terms of the chiropractic needs within the state of Iowa. Of particular consequence, is that there are definite needs within the state for chiropractic care. While at first glance, with Iowa being ranked number 44 in the nation for population per Doctor of Chiropractic, statistics would tend to suggest that there is plentiful supply of Doctors of Chiropractic when compared to other states. However, it is erroneous to assume that supply equates to access. Upon further inspection of Table 4, no fewer than thirty-four (34) counties had a better chiropractor to population ratio of one chiropractor to 4,500 population. Thus, the problem of chiropractic care in the state of Iowa appears to one more of distribution rather total quantity. There is little solace for the person needing chiropractic care who happens to live in Madison County with one chiropractor per 12,709 population when Scott county residents have a ratio of one chiropractor per every 858 residents.

Aside from the astute analysis provided in the report regarding distributive needs of health care within the state and the needs of graduating students for debt relief, there are additional reasons to support a forgivable loan program. One in particular is simply the need for low back pain relief. The Agency for Health Care Policy and Research (AHCPR), established under the Omnibus Budget Reconciliation Act of 1989 - Public Law 101-239, recently reported the findings of an independent multidisciplinary panel of private-sector clinicians convened to study acute low back pain in adults (AHCPR Publication No. 95-0642, December, 1994). Among those findings were that, "Back problems rank high among the reasons for physician office visits, are costly in terms of medical treatment, time lost from work, and nonmonetary costs such as diminished ability to perform or enjoy usual activities. For persons under age 45, low back problems are the most frequent cause of disability." "Various estimates of the total annual societal cost of back pain in the United States range from $20 to $50 billion."

"The panel found manipulation (chiropractic) to be a recommendable method of symptom control. Manipulation seems helpful for patients with acute low back problems without radiculopathy when used within the first month of symptoms."

Finally, it should be mentioned that Palmer graduates are among the "creme of the crop" types of individuals that Iowans should welcome within the state. Aside from the fact they are of high character and contribute substantially to Iowa's society, the economic contribution that chiropractic practices make to local and state economies is considerable.

VI REFERENCES

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COMMENTS ON STUDENT FINANCIAL NEED

Provided by

Palmer Chiropractic University System

TO: Doug Hoyle

FROM: Blaine Duistermars

DATE: December 12, 1994

RE: Requested Information for ICSAC

Please find enclosed the information you requested for the ICSAC. If you need additional information or clarification on the following material, please contact me.

Demonstrating Financial Need

Eligibility for most of the federal student aid programs is based on financial need. At its simplest level, a student's financial need is the difference between the student's cost of attendance and the amount the family can be expected to contribute to the student's education.

The process of need analysis is actually a calculation based on a formula developed by Congress to determine how much parents and students can be expected to pay toward a student's education. The Expected Family Contribution (EFC) measures the family's financial strength, based on income and assets of the student and if the student is dependent, the student's parents. About 90% percent of the students enrolled at Palmer College are considered independent. This figure is unusually high because the overwhelming majority of Palmer students are considered graduate students. Thus, in calculating their financial need, only the student's income is used.

After the need analysis is completed, the EFC is subtracted from the student budget. If the EFC is less than the cost of attendance, the student is considered to have financial need. If the EFC is higher than the cost of attendance, the student is considered to have no financial need.

The overwhelming majority of students enrolled at Palmer College have an extremely low or "zero" EFC. One reason for the low EFC is related to the academic demands placed on students. The time commitment for studies provides little time for work. The low earnings along with high tuition, fees, room and board expenses, have pushed students to a point where a large majority rely solely on student financial aid to meet all their expenses.

During the early 1980s, the federal government increased its emphasis on loans and de-emphasized grants. With this restructuring of the federal aid programs, the percentage of loans in the financial aid package for most students with financial need increased substantially and rapidly.

The increased use of loans in financial aid packages for students with financial need led many professional institutions, including Palmer College, to rely entirely on the federal loan programs and limited institutional funding which could be generated to supplement the students' aid package.

As an institution with a firm commitment to both current and future students, Palmer College is making progress in reducing the dependency on student loans. Palmer College has steadily increased it's funding of Institutional Scholarships over the past three years.

This commitment stems from efforts to maintain an extremely low cohort default rate in the Title IV programs, reduction on the dependence on less desirable loans (HEAL), and the realization that no matter how great the income potential might be for the profession, student indebtedness and the resulting steep monthly repayment plans pose a problem that can best be averted through increased institutional scholarship funding.

Palmer's Institutional Scholarships have exhibited a steady increase beginning with fiscal year 91/92 and continued that growth with fiscal 95/96 award projections exceeding the 94/95 awards by more than $113,000 in new funding.

Institutional Scholarship Funding

FY 91/92	$ 679,224	
FY 92/93	$ 933,433	
FY 93/94	$1,079,725	
FY 94/95	$1,177,800	
FY 95/96	$1,349,690	(projected 5% increase over FY 94/95 plus new funding)

While Palmer College has taken major strides in generating institutional funding, student loan encumbrance remains a growing concern. The federal student aid system is not well-suited to meet the needs of the graduate student population. The growing levels of student debt burden are a clear indication of this trend.

The research conducted by the Financial Planning Office takes a look at the student debt burden upon graduation. The obvious trend reflects a consistent increase per graduating class.

Graduating Class	Avg. Debt
October 1994	$62,145
June 1994	$63,760
February 1994	$61,169
October 1993	$52,588
June 1993	$56,857
February 1993	$56,286
October 1992	$60,334
June 1992	$52,728
March 1992	$51,168
October 1991	$49,036
June 1991	$45,948
March 1991	$47,802

While debt burden may present a barrier to the access of a professional degree, the problems of debt management and loan encumbrance continue to exist. Even if "high tuition" is accompanied with "high aid", the reality is that "high aid" will almost surely come in the form of more borrowing, not grant assistance.

In short, the spiraling debt issue does challenge institutions to control the tuition and cost issues. Making Palmer College affordable and keeping the student debt burden in check, will ultimately depend on controlling the cost and tuition spiral.

As institutions become more proactive in finding and securing alternative funding resources for their students, a forgivable loan program for the students of Iowa attending Palmer College will undoubtedly help borrowers in managing an ever increasing debt burden.

TABLES

Table 1 ..... Palmer College of Chiropractic Comparative Financial Aid Data

Table 2 ..... Accredited Chiropractic College Tuition and Fees - 1994

Table 3 ..... Doctors of Chiropractic and Population United States

Table 4 ..... Chiropractic, Allopathic and Osteopathic Doctors Per County Population

Table 5 ..... Chiropractic, Allopathic and Osteopathic Doctors Per State Population

Table 6 ..... Accredited Chiropractic Institution Repayment Rates

Table 1
PALMER COLLEGE OF CHIROPRACTIC
COMPARATIVE FINANCIAL AID DATA

	FY 1988 - 89			FY 1992 - 93		
	Number	Dollars	Average	Number	Dollars	Average
FEDERAL PROGRAMS						
College Work Study						
Federal Share		85,066			155,194	
Institutional Share		21,267			66,511	
Total	119	106,333	894	385	221,705	576
Perkins Loans						
Federal Share		480,960			273,738	
Institutional Share					30,416	
Available from Collections					456,602	
Total	427	480,960	1,126	1,007	760,756	755
Health Education Assistance Loans						
Chiropractic	548	2,932,188	5,351	430	1,679,863	3,907
Federal Family Education Loans	695	2,513,751	3,617	730	8,615,069	11,801
Total Federal Programs	1,789	6,033,232	3,372	2,552	11,277,393	4,419
STATE PROGRAMS						
National Guard Benefits		Not Available		24	130,087	5,420
Vocational Rehabilitation		Not Available		25	75,758	3,030
Total State Programs				49	205,845	4,201
INSTITUTIONAL PROGRAMS						
Scholarships, Grants, Traineeships	70	20,257	289	617	933,433	1,513
Faculty and Staff		Not Available		5	17,285	3,457
Faculty Dependents		Not Available		3	7,552	2,517
Athletic Waivers	35	40,534	1,158	95	171,324	1,803
Academic Waivers	222	36,990	167	178	445,020	2,500
Institutional Loans	31	62,479	2,015	203	90,013	443
Other Student Employment	1,416	418,462	296	300	426,000	1,420
Total Institutional Programs	1,774	578,722	326	1,401	2,090,627	1,492
Total	3,563	6,611,954	1,856	4,002	13,573,865	3,392
All Loan Programs	1,701	5,989,378	3,521	2,370	11,145,701	4,703

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Table 2
ACCREDITED CHIROPRACTIC COLLEGE TUITION AND FEES
1994

Name	Location	Academic Term	No. of Terms	Tuition (Term)	Tuition (Annual)	Fees (Annual)	Total (Annual)	Total Cost	Expense Rank
Cleveland College of Chiropractic	Los Angeles, CA	Trimester	10	4,555	13,665	450	14,115	47,050	3
Cleveland College of Chiropractic	Kansas City, MO	Trimester	12	4,640	13,920	300	14,220	56,880	1
Life Chiropractic College	San Lorenzo, CA	Quarter	12	3,550	14,200	0	14,200	42,600	8
Life Chiropractic College	Marietta, GA	Quarter	14	2,900	11,600	120	11,720	41,020	12
Logan College of Chiropractic	Chesterfield, MO	Trimester	10	4,205	12,615	65	12,680	42,270	10
Los Angeles College of Chiropractic	Whittier, CA	Trimester	10	4,678	14,034	30	14,064	46,880	4
National College of Chiropractic	Lombard, IL	Trimester	10	4,200	12,600	0	12,600	42,000	11
New York Chiropractic College	Seneca Falls, NY	Trimester	10	4,100	12,300	405	12,705	42,350	9
Northwestern College of Chiropractic	Bloomington, MN	Trimester	10	4,400	13,200	270	13,470	44,900	6
Palmer College of Chiropractic	Davenport, IA	Trimester	10	4,290	12,870	300	13,170	43,900	7
Palmer College of Chiropractic - West	San Jose, CA	Quarter	13	3,695	14,780	0	14,780	48,035	2
Parker College of Chiropractic	Dallas, TX	Trimester	9	4,000	12,000	55	12,055	36,162	14
Texas Chiropractic College	Pasadena, TX	Trimester	10	3,900	11,700	300	12,000	40,000	13
Western Sates Chiropractic College	Portland, OR	Quarter	12	3,775	15,100	420	15,520	46,560	5
		Average		4,063	13,185	194	13,379	44,329	8

SOURCE: PALMER CHIROPRACTIC UNIVERSITY
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Table 3

DOCTORS OF CHIROPRACTIC AND POPULATION

UNITED STATES

Year	Active Chiropractor	Total Population*	Population per Chiro.	Chiropractors per 100,000 Pop
1978	23,400	223,880	9,568	10.45
1980	25,600	228,542	8,927	11.20
1982	28,300	233,217	8,241	12.13
1984	31,500	237,677	7,545	13.25
1986	35,000	242,308	6,923	14.44
1988	39,000	246,400	6,318	15.83
(est) 2000	52,500	268,266	5,110	19.57

*Population is in millions.

Source: U. S. Department of Health and Human Services, Public Health Service, Health Resources and Sevices Administration. (1991). *Seventh Report to the President and Congress on the Status of Health Personnel in the United States.* Washington, D. C.: pages XV-12 and XV-14.

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Table 4

CHIROPRACTIC, ALLOPATHIC AND OSTEOPATHIC DOCTORS PER COUNTY POPULATION

County	Name	Population 1992 Estimate	Doctors of Chiropractic	Population Per Dr. Chir	Doctors of Allo. / Osteo.	Population Per Allo. / Osteo.
0	None		2		17	
1	Adair	8,283	2	4,142	6	1,381
2	Adams	4,637	1	4,637	2	2,319
3	Allamakee	13,814	6	2,302	8	1,727
4	Appanoose	13,726	3	4,575	6	2,288
5	Audubon	7,095	2	3,548	4	1,774
6	Benton	22,686	3	7,562	7	3,241
7	Black Hawk	125,395	23	5,452	123	1,019
8	Boone	25,210	7	3,601	11	2,292
9	Bremer	22,813	6	3,802	11	2,074
10	Buchanan	20,940	5	4,188	7	2,991
11	Buena Vista	19,995	5	3,999	12	1,666
12	Butler	15,678	6	2,613	5	3,136
13	Calhoun	11,396	5	2,279	8	1,425
14	Carroll	21,388	8	2,674	12	1,782
15	Cass	14,948	2	7,474	8	1,869
16	Cedar	17,567	10	1,757	7	2,510
17	Cerro Gordo	46,812	14	3,344	82	571
18	Cherokee	13,949	8	1,744	13	1,073
19	Chickasaw	13,208	5	2,642	6	2,201
20	Clarke	8,318	2	4,159	4	2,080
21	Clay	17,728	9	1,970	11	1,612
22	Clayton	18,735	6	3,123	9	2,082
23	Clinton	51,152	23	2,224	29	1,764
24	Crawford	16,588	5	3,318	10	1,659
25	Dallas	30,865	4	7,716	13	2,374
26	Davis	8,290	2	4,145	4	2,073
27	Decatur	8,106	1	8,106	4	2,027
28	Delaware	18,310	3	6,103	8	2,289
29	Des Moines	42,842	18	2,380	24	1,785
30	Dickinson	15,233	11	1,385	10	1,523
31	Dubuque	87,215	21	4,153	79	1,104
32	Emmett	11,625	4	2,906	10	1,163
33	Fayette	21,755	7	3,108	11	1,978
34	Floyd	16,887	8	2,111	6	2,815
35	Franklin	11,146	2	5,573	4	2,787
36	Fremont	8,141	1	8,141	3	2,714
37	Greene	10,024	3	3,341	7	1,432
38	Grundy	12,013	3	4,004	6	2,002
39	Guthrie	11,130	3	3,710	8	1,391
40	Hamilton	16,092	3	5,364	11	1,463
41	Hancock	12,301	3	4,100	5	2,460
42	Hardin	18,744	4	4,686	11	1,704
43	Harrison	14,652	3	4,884	6	2,442
44	Henry	19,465	5	3,893	13	1,497
45	Howard	9,846	2	4,923	5	1,969
46	Humboldt	10,505	3	3,502	3	3,502
47	Ida	8,278	2	4,139	4	2,070
48	Iowa	14,690	9	1,632	6	2,448
49	Jackson	19,983	5	3,997	11	1,817
50	Jasper	34,926	5	6,985	15	2,328
51	Jefferson	16,450	13	1,265	11	1,495
52	Johnson	97,546	24	4,064	491	199
53	Jones	19,730	5	3,946	11	1,794
54	Keokuk	11,563	2	5,782	9	1,285
55	Kossuth	18,123	5	3,625	7	2,589
56	Lee	38,952	13	2,996	27	1,443
57	Linn	172,892	47	3,679	138	1,253
58	Louisa	11,400	3	3,800	2	5,700
59	Lucas	9,040	2	4,520	4	2,260
60	Lyon	11,906	2	5,953	2	5,953

Table 4

CHIROPRACTIC, ALLOPATHIC AND OSTEOPATHIC DOCTORS PER COUNTY POPULATION

County	Name	Population 1992 Estimate	Doctors of Chiropractic	Population Per Dr. Chir	Doctors of Allo. / Osteo.	Population Per Allo. / Osteo.
61	Madison	12,709	1	12,709	4	3,177
62	Mahaska	21,399	7	3,057	11	1,945
63	Marion	30,171	8	3,771	18	1,676
64	Marshall	37,698	9	4,189	27	1,396
65	Mills	13,386	1	13,386	5	2,677
66	Mitchell	10,783	2	5,392	7	1,540
67	Monona	9,915	1	9,915	8	1,239
68	Monroe	8,187	4	2,047	4	2,047
69	Montgomery	11,780	2	5,890	9	1,309
70	Muscatine	40,838	18	2,269	16	2,552
71	O'Brien	15,366	8	1,921	6	2,561
72	Osceola	7,193	2	3,597	3	2,398
73	Page	16,544	6	2,757	12	1,379
74	Palo Alto	10,471	4	2,618	5	2,094
75	Plymouth	23,658	9	2,629	7	3,380
76	Pocahontas	9,241	2	4,621	7	1,320
77	Polk	338,261	63	5,369	520	651
78	Pottawattami	83,777	10	8,378	40	2,094
79	Poweshiek	18,950	4	4,738	11	1,723
80	Ringgold	5,318	1	5,318	4	1,330
81	Sac	12,065	3	4,022	4	3,016
82	Scott	155,210	181	858	159	976
83	Shelby	13,181	3	4,394	6	2,197
84	Sioux	30,331	8	3,791	16	1,896
85	Story	74,329	14	5,309	66	1,126
86	Tama	17,329	5	3,466	5	3,466
87	Taylor	6,970	0	-	8	871
88	Union	12,465	2	6,233	7	1,781
89	Van Buren	7,715	1	7,715	6	1,286
90	Wapello	35,758	6	5,960	25	1,430
91	Warren	37,278	8	4,660	22	1,694
92	Washington	20,056	8	2,507	10	2,006
93	Wayne	6,914	1	6,914	2	3,457
94	Webster	39,991	8	4,999	31	1,290
95	Winnebago	11,902	4	2,976	5	2,380
96	Winneshiek	21,050	7	3,007	15	1,403
97	Woodbury	99,958	30	3,332	98	1,020
98	Worth	7,860	3	2,620	3	2,620
99	Wright	14,210	5	2,842	7	2,030
	TOTAL	2,802,944	878	3,192	2,626	198,091
	Average			4,262		2,001

SOURCE: Iowa Department of Health

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TABLE 5
CHIROPRACTIC, ALLOPATHIC AND OSTEOPATHIC DOCTORS PER STATE POPULATION

	Non-Federal Physicians 1990			Chiropractors 1989		
	Number	Per 100,000	Population per Doctor	Number	Per 100,000	Population per Chiropractor
MINNESOTA	10,458	239.03	418	1,648	39	2,564
IOWA	4,728	170.27	587	744	26	3,846
OREGON	6,562	230.87	433	1,010	37	2,703
SOUTH DAKOTA	1,093	157.04	637	155	22	4,545
GEORGIA	11,929	184.14	543	1,650	27	3,704
ALASKA	777	141.26	708	104	20	5,000
IDAHO	1,435	142.54	702	176	18	5,556
MISSOURI	10,759	210.26	476	1,295	25	4,000
MICHIGAN	18,620	200.32	499	2,223	24	4,167
MONTANA	1,452	181.71	550	171	21	4,762
ARIZONA	8,226	224.43	446	967	29	3,448
KANSAS	4,861	196.20	510	562	23	4,348
NEW JERSEY	20,579	266.22	376	2,369	31	3,226
COLORADO	7,606	230.88	433	860	26	3,846
WYOMING	734	161.82	618	80	16	6,250
OKLAHOMA	5,095	161.97	617	550	17	5,882
CALIFORNIA	78,285	263.05	380	8,025	30	3,333
FLORIDA	31,483	243.34	411	3,222	25	4,000
NORTH DAKOTA	1,195	187.07	535	120	18	5,556
NEVADA	1,921	159.84	626	190	19	5,263
HAWAII	2,809	253.47	395	267	25	4,000
WASHINGTON	11,325	232.70	430	1,076	24	4,167
NEW MEXICO	3,114	205.54	487	293	20	5,000
NEW HAMPSHIRE	2,507	226.01	442	230	22	4,545
WISCONSIN	10,049	205.43	487	894	19	5,263
ARKANSAS	3,966	168.71	593	298	12	8,333
UTAH	3,406	197.70	506	247	15	6,667
PENNSYLVANIA	30,824	259.43	385	2,229	19	5,263
ILLINOIS	26,603	232.73	430	1,889	16	6,250
KENTUCKY	6,701	181.83	550	458	12	8,333
SOUTH CAROLINA	6,096	174.84	572	391	11	9,091
NORTH CAROLINA	13,492	203.54	491	861	13	7,692
NEW YORK	60,744	337.65	296	3,800	21	4,762
INDIANA	9,558	172.40	580	595	11	9,091
MAINE	2,522	205.39	487	154	13	7,692
NEBRASKA	2,955	187.22	534	180	11	9,091
DELAWARE	1,449	217.51	460	83	13	7,692
TEXAS	31,647	186.31	537	1,808	11	9,091
ALABAMA	6,964	172.35	580	391	10	10,000
VERMONT	1,631	289.82	345	91	17	5,882
MISSISSIPPI	3,753	145.85	686	206	8	12,500
RHODE ISLAND	2,744	273.45	366	149	15	6,667
LOUISIANA	8,689	205.90	486	419	9	11,111
OHIO	23,239	214.24	467	1,045	10	10,000
TENNESSEE	10,334	211.88	472	443	9	11,111
MASSACHUSETTS	21,475	356.94	280	895	15	6,667
WEST VIRGINIA	3,388	188.91	529	134	7	14,286
CONNECTICUT	10,699	325.48	307	423	13	7,692
VIRGINIA	13,795	222.95	449	346	6	16,667
MARYLAND	16,716	349.60	286	384	8	12,500
DISTRICT OF COLUM	3,929	647.39	154	75	12	8,333
	574,463			45,227		

SOURCE: Morgan, Kathleen O., Morgan, Scott, and Quitno, Neal, editors (1993).
Health Care State Rankings 1993. Lawrence, KS: Morgan Quitno Corporation. pps. 384, 385, 425, and 426.

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Table 6

ACCREDITED CHIROPRACTIC INSTITUTION REPAYMENT RATES

Name	Location	1990 Borrowers Paying	1990 Borrowers In Repayment	1990 Repayment Rate	1991 Borrowers Paying	1991 Borrowers In Repayment	1991 Repayment Rate	1992 Borrowers Paying	1992 Borrowers In Repayment	1992 Repayment Rate
Cleveland College of Chiropractic	Los Angeles, CA	395	402	98.26%	318	326	97.55%	205	216	94.91%
Cleveland College of Chiropractic	Kansas City, MO	389	401	97.01%	309	319	96.87%	140	147	95.24%
Life Chiropractic College	San Lorenzo, CA	449	454	98.90%	368	375	98.13%	209	216	96.76%
Life Chiropractic College	Marietta, GA	1,228	1,269	96.77%	1,107	1,139	97.19%	671	700	95.86%
Logan College of Chiropractic	Chesterfield, MO	666	673	98.96%	447	456	98.03%	273	278	98.20%
Los Angeles College of Chiropractic	Whittier, Ca	894	901	99.22%	817	825	99.03%	389	403	96.53%
National College of Chiropractic	Lombard, IL	671	676	99.26%	573	579	98.96%	320	326	98.16%
New York Chiropractic College	Seneca Falls, NY	526	534	98.50%	457	461	99.13%	251	259	96.91%
Northwestern College of Chiropractic	Bloomington, MN	536	539	99.44%	320	328	97.56%	217	219	99.09%
Palmer College of Chiropractic	Davenport, IA	1,469	1,476	99.53%	898	909	98.79%	594	609	97.54%
Palmer College of Chiropractic - West	San Jose, CA	510	519	98.27%	371	382	97.12%	273	288	94.79%
Parker College of Chiropractic	Dallas, TX	475	483	98.34%	602	616	97.73%	345	358	96.37%
Texas Chiropractic College	Pasadena, TX	219	229	95.63%	195	201	97.01%	125	132	94.70%
Western States Chiropractic College	Portland, OR	158	163	96.93%	182	188	96.81%	160	163	98.16%

SOURCE. U. S. Department of Education. (1994). *Federal Family Education Loan Program, FY 1990, FY 1991, and FY 1992 Cohort Default Rates for Schools.* Washington, D. C.

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