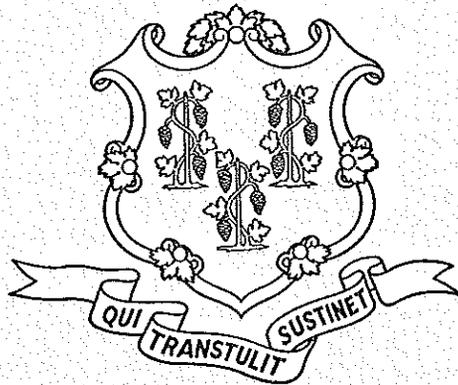


Connecticut General Assembly



Legislative Program Review and Investigations Committee

SUNSET REVIEW

Board of Chiropractic Examiners

Vol. I-12

January 1, 1980

CONNECTICUT GENERAL ASSEMBLY

LEGISLATIVE PROGRAM REVIEW AND INVESTIGATIONS COMMITTEE

The Legislative Program Review and Investigations Committee is a joint, bipartisan, statutory committee of the Connecticut General Assembly. It was established in 1972 as the Legislative Program Review Committee to evaluate the efficiency and effectiveness of selected state programs and to recommend improvements. In 1975 the General Assembly expanded the Committee's function to include investigations and changed its name to the Legislative Program Review and Investigations Committee. During the 1977 session, the Committee's mandate was again expanded by the Executive Reorganization Act to include "Sunset" performance reviews of nearly 100 agencies, boards, and commissions, commencing on January 1, 1979.

The Committee is composed of twelve members, three each appointed by the Senate President Pro Tempore and Minority Leader, and the Speaker of the House and Minority Leader.

This is the first of five annual reviews emerging from the first round of "Sunset" research.

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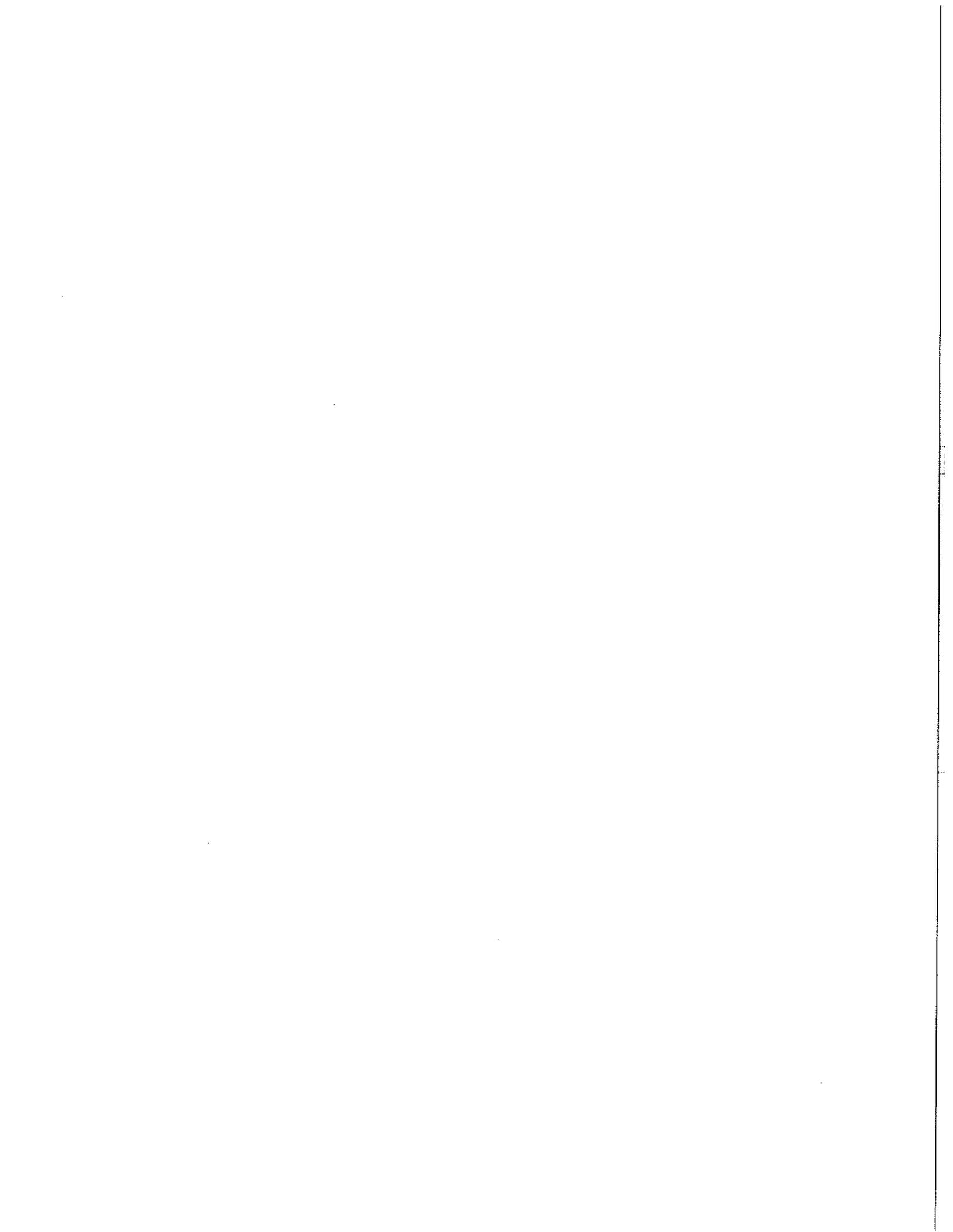
Committee Staff

Michael L. Nauer, Director
Paul S. Rapo, Staff Attorney
George W. McKee, Sunset Coordinator
Elaine A. Anderson, Ph.D., Senior Program Analyst
Randy J. Garber, Program Analyst, Acting Sunset Coordinator
Jill E. Jensen, Program Analyst & Principal Analyst on the Study
L. Spencer Cain, Program Analyst & Principal Analyst on the Study
Catherine McNeill Conlin, Program Analyst
Joanne E. Downs, Program Analyst
Anne E. McAloon, Program Analyst
Lillian B. Crovo, Stenographer
Mary Lou Gilchrist, Committee Secretary

SUNSET REVIEW 1980

STATE BOARD OF CHIROPRACTIC EXAMINERS

Vol. I-12



STATE BOARD OF CHIROPRACTIC EXAMINERS

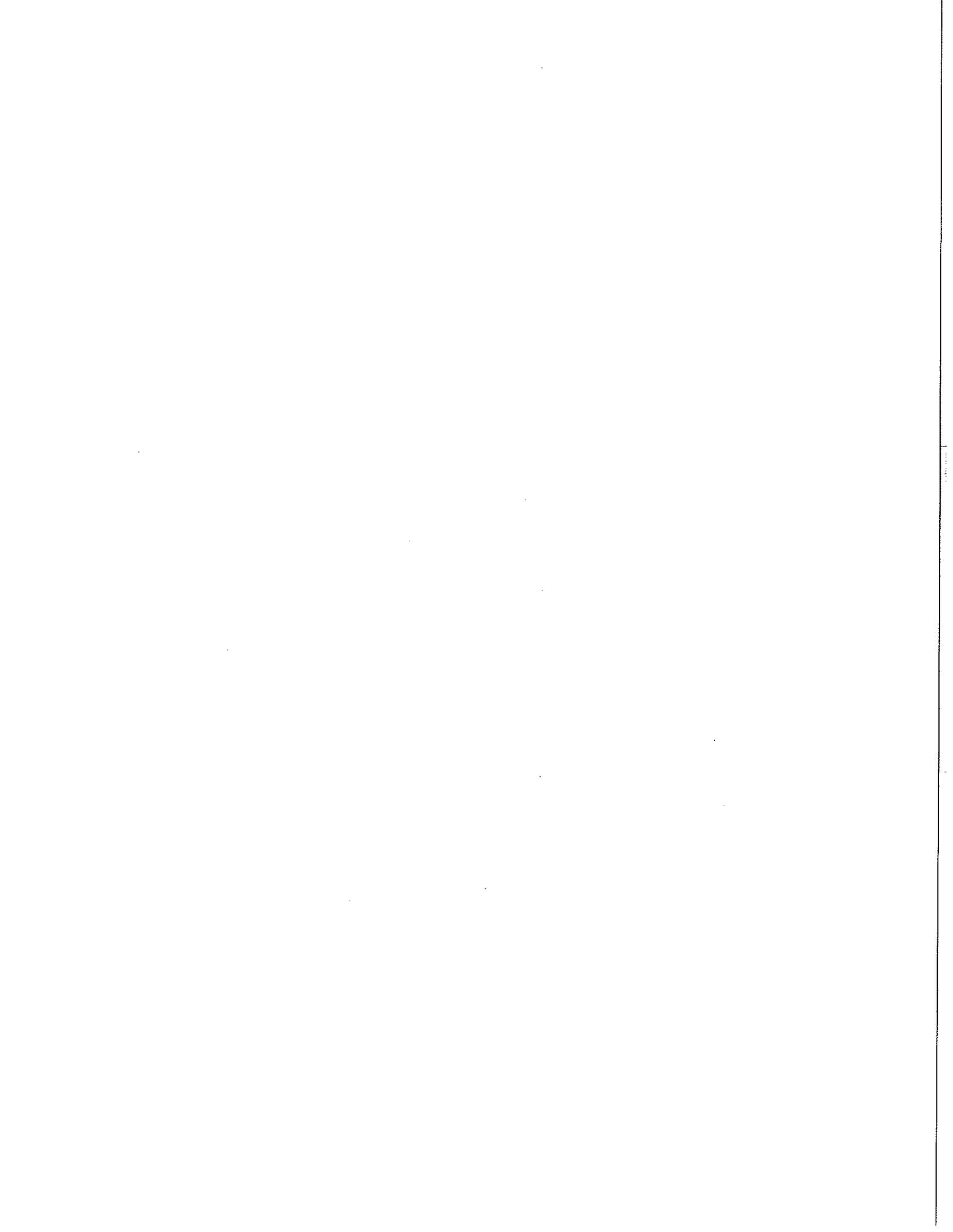
The State Board of Chiropractic Examiners was reviewed by the Legislative Program Review and Investigations Committee in compliance with the Sunset mandate of P.A. 77-614. The nine criteria outlined in that act (Title 2c, Chapter 28) provided the basis upon which committee decisions were made. These criteria required legislators to address three fundamental questions in evaluating the boards and commissions slated for 1980 Sunset review:

1. Is regulation of the occupation or profession necessary to protect the public from harm?
2. What is the appropriate level of regulation?
3. Who should regulate the occupation or profession and how should it be regulated?

This board-specific report is supplemental to the Sunset Review 1980 - General Report which contains the background, methods, and recommendations of Sunset Review 1980. To appreciate fully the contents of this board-specific report, it is necessary to review and refer to the General Report, particularly the section "Model Legislation" which provides a single statutory framework to be applied uniformly and consistently to all regulated entities under Sunset review.

This specific report contains the following sections:

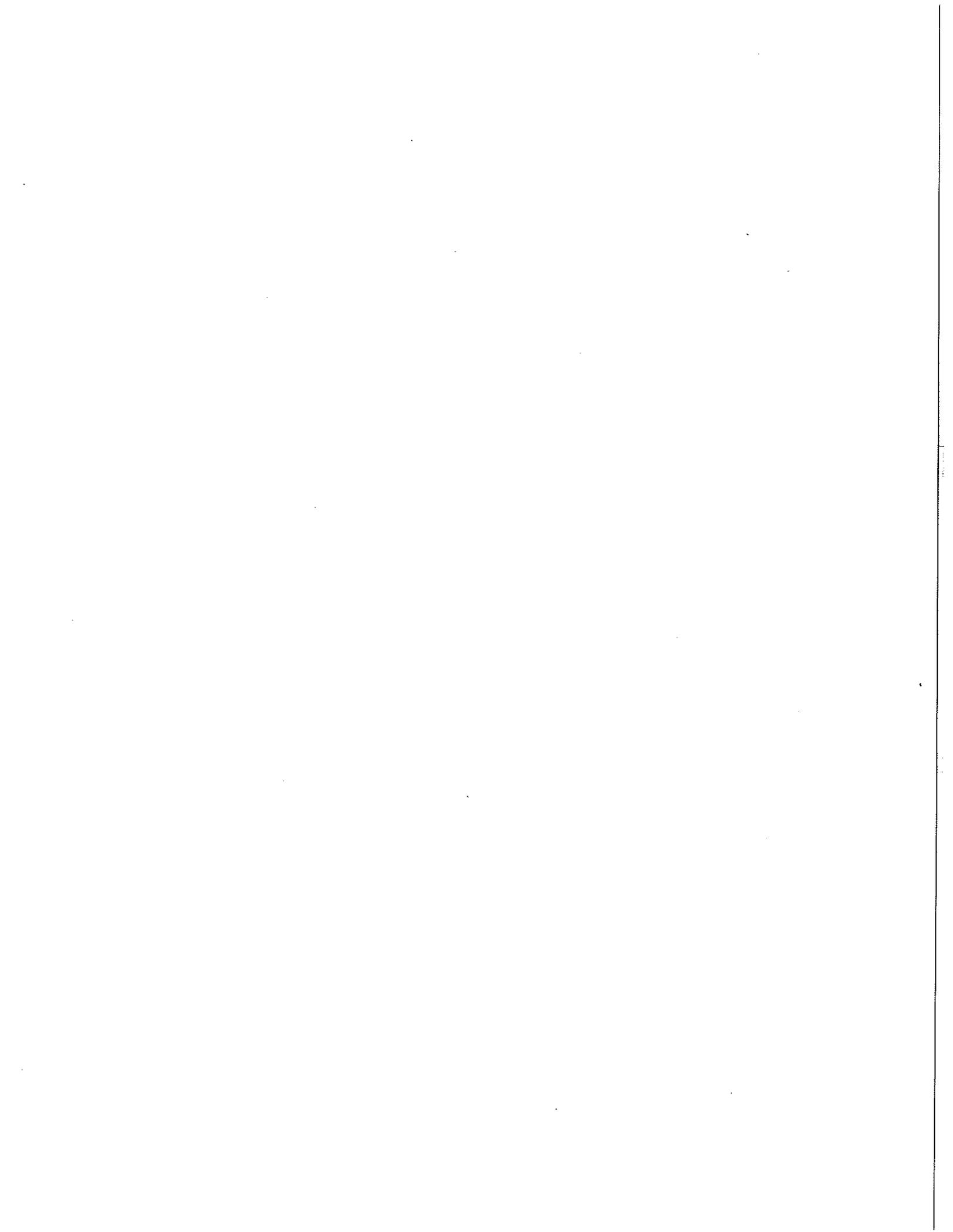
- Description of entity reviewed;
- Recommendations and discussion for entity reviewed; and
- Entity survey and analysis.



SECTION I

DESCRIPTION OF ENTITY

Definition and Background
Structure
Functions
Entry Requirements



Definition and Background

Chiropractic consists of the manipulation, adjustment, and treatment of vertebral dislocations or malpositioned bone junctures which may interfere with normal generation, transmission and expression of nerve impulses between the brain, organs and tissue cells of the body, or which may be a cause of disease.

Like the other healing arts, chiropractic legally employs independent judgment and authority in the prevention and treatment of disease. Within the scope of chiropractic medicine as defined by Connecticut statute, the practitioner may examine, analyze, diagnose, and prescribe and administer treatment. For diagnostic purposes, the chiropractor may use x-ray or any other general method of examination which has been recognized and approved by the state board.

Treatment may include mechanical, manual, electrical or natural methods; physical means such as light, heat, water, or exercise; and the oral administration of foods, food concentrates, food extracts or vitamins. Chiropractors are expressly prohibited, however, from administering or prescribing any medicine or drug included under pharmacology and from performing any surgery or practicing obstetrics or osteopathy. Malfeasance or abuse in any area of the practice may result in significant and/or irreversible physical, emotional or financial harm.

From its origin in 1917 to 1976, chiropractic medicine in Connecticut was confined by statute to a narrow definition of practice which authorized only manual adjustment of any vertebral articulation. In April, 1975, the Connecticut Court of Common Pleas (Oemche vs. Vincent, et al.) required clinical laboratories to accept specimens for analysis from licensed chiropractors and recognized the right of chiropractors to use diagnosis in their practice. This judicial decision provided the background for subsequent statutory change.

In 1976, P.A. 76-83 expanded the definition of chiropractic to its present scope of practice. The act clarified that chiropractors may use diagnosis, may administer first aid, and administer and prescribe vitamins. Earlier legislation in 1967 (P.A. 852), "An Act Concerning Unfair Insurance Practices," extended third party payment reimbursement to the chiropractic profession. These public acts reflect legislative acknowledgment of the growth in both scope of practice and service delivery in

chiropractic. Such statutory expansion has encouraged more chiropractors to receive Connecticut licensure.

Currently, 145 chiropractors hold valid licenses to practice in Connecticut.

Structure

The board of examiners consists of three members appointed by the Governor. The Connecticut Chiropractic Association may submit nominees for the two professional board appointments. One public member completes the board.

Functions

To execute its regulatory function, the board is vested with the following powers and duties:

- adoption of educational requirements without prejudice or discrimination as to any school of chiropractic;
- prescribe an examination with the consent of the Commissioner of Health Services;
- approve colleges and schools of chiropractic;
- approve new and reciprocal licensure; and
- preside over and prescribe sanctions in disciplinary hearings.

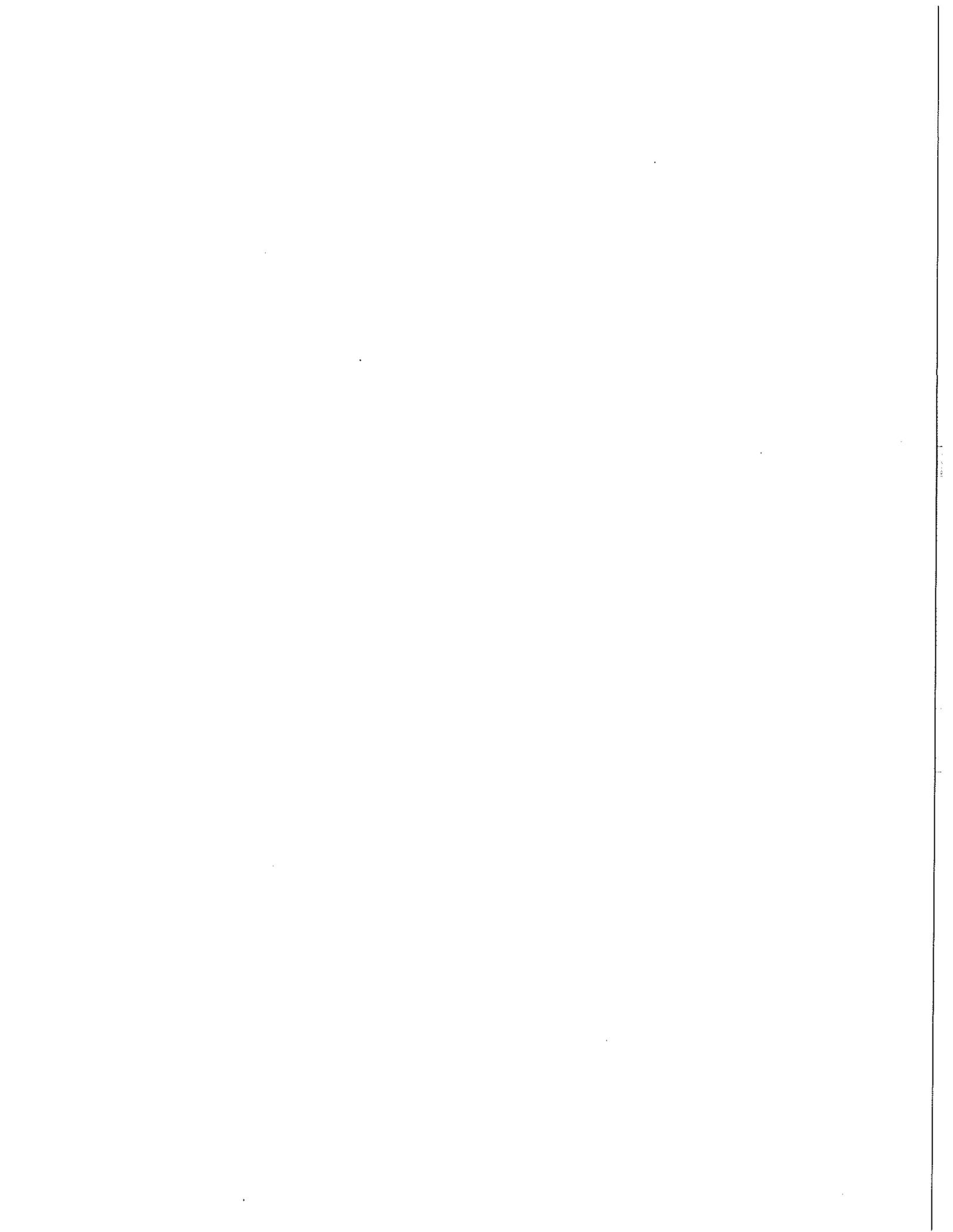
Requirements for Licensure

New applicants for licensure must present evidence of good moral character, current or intended state residency, graduation from an approved high school or its equivalent, sufficient hours of training in and graduation from a reputable, approved college of chiropractic, and satisfactory completion of the prescribed examination. The application fee is \$150.00.

Licenses by reciprocity may be granted by the board to a licensee of a similar board in any other state provided that the applicant is a graduate of an approved school of chiropractic, has met the educational requirements of the board, has practiced for at least five years preceding the application, and is of good repute. The fee for license by reciprocity is \$150.00.

SECTION II

RECOMMENDATIONS AND DISCUSSION



Recommendations for the Regulation of
Chiropractic Medicine (Chapter 372)

1. Continue licensure.

Licensure has been found to be the most appropriate and necessary level of regulation for this healing art.

2. Continue Connecticut State Board of Chiropractic Examiners.

Retention of this board is necessary to provide the professional expertise needed in the entry and enforcement functions of licensure. The board is to be retained as an individual regulatory entity to preserve the distinction between chiropractic and the other healing arts.

3. Increase board membership to seven (four professionals and three public members).

Chiropractic has experienced rapid growth in Connecticut. The workload of board members has increased accordingly. Prior to Executive Reorganization the board had a total of three professional members who were experiencing a workload beyond a reasonable capacity.

Executive Reorganization replaced one of these professional members with a public member who would not be able to participate fully in the development and administration of examinations. This recommendation provides the board with four professional and three public members to accommodate the increase in applications and board activity.

4. Amend Chapter 372 to include Model Legislation standards, procedures, responsibilities, appropriate repealed sections and all other relevant sections.

Model Legislation addresses and ameliorates previous and potential concerns about regulatory procedures and policies. By providing a single regulatory framework for all boards under the aegis of the Department of Health Services (DOHS), the Model Legislation insures consistency, objectivity and uniformity in the execution of regulatory functions. Specific areas of concern in the chiropractic board and the solution offered by the Model Legislation are listed below.

a. Powers and Duties of the Department of Health Services -
Professional board members and others expressed concern about the perceived unilateral control and authority by this single agency after Executive Reorganization. Model Legislation

delineates the Commissioner's powers and duties relative to the regulatory boards and provides mechanisms for countervailing powers and board input where necessary.

- b. Powers and Duties of the Boards - *Critics of the boards prior to Executive Reorganization maintained that they had too much authority and lacked a necessary system of checks and balances in their powers and duties. After Executive Reorganization, however, board members and other professionals in particular believed that the board's regulatory role was overly diluted and not clearly specified with respect to the Department of Health Services.*

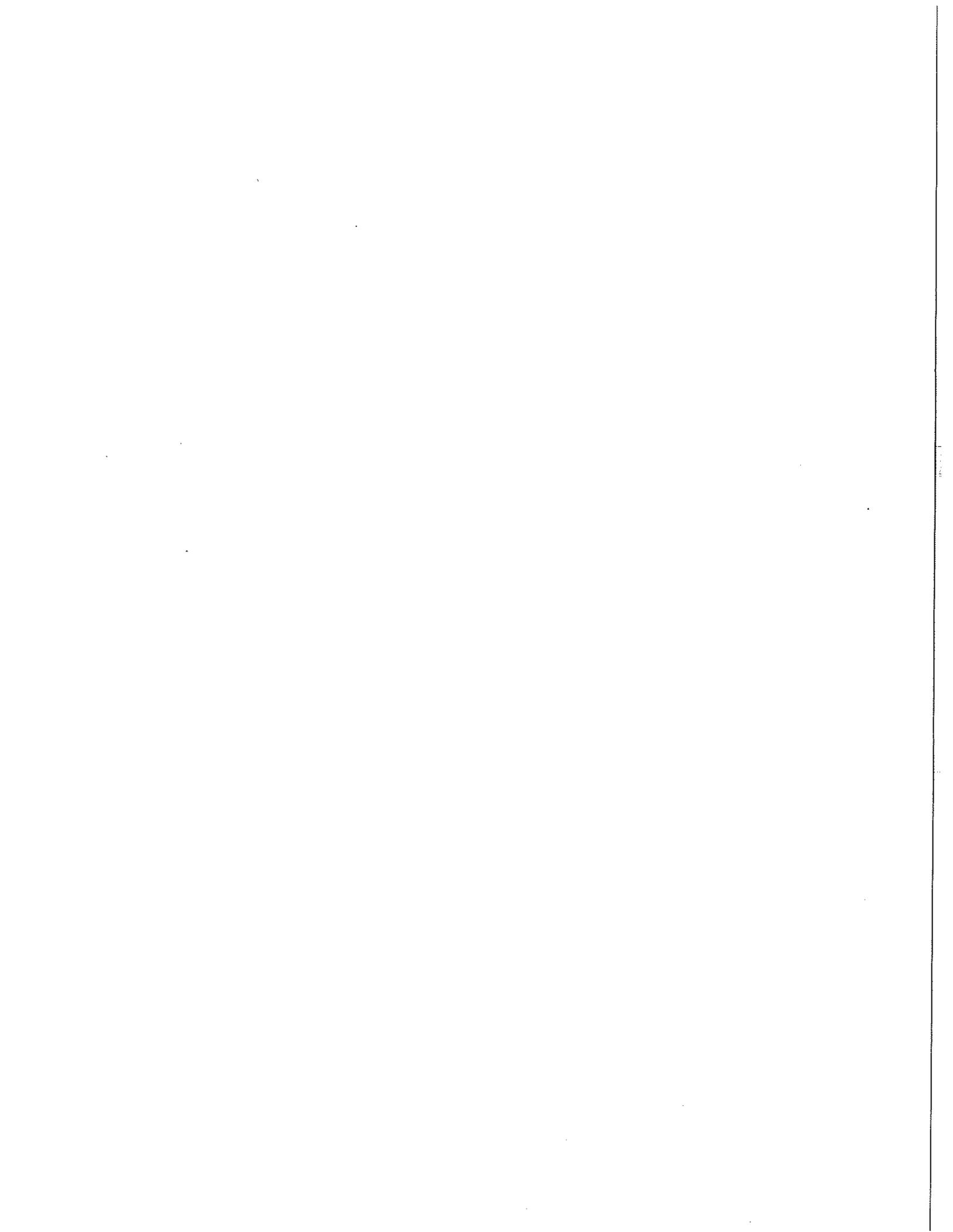
Model Legislation delineates the board's powers and duties and provides mechanisms to insure professional expertise and input where necessary.

- c. Business Practices - *The Committee found that regulation of business practices and statutory restrictions on business practices were not relevant to ensuring and enforcing minimum standards of competence. Such business practices are recommended for statutory repeal (See Model Legislation - Business Practices).*
- d. Entry Requirements - *The Committee found that the chiropractic statutes governing entry requirements contained certain qualifications not relevant to determining an applicant's competence. Such requirements--age, state residency, of good repute and five years of licensed practice preceding an application for license by reciprocity--are recommended for deletion.*

Model Legislation also provides for an intensive review and revision of entry requirements by the board and the Department of Health Services to bring them in conformance with the principles outlined in the Model Legislation and the current state of the art in the practice of chiropractic.

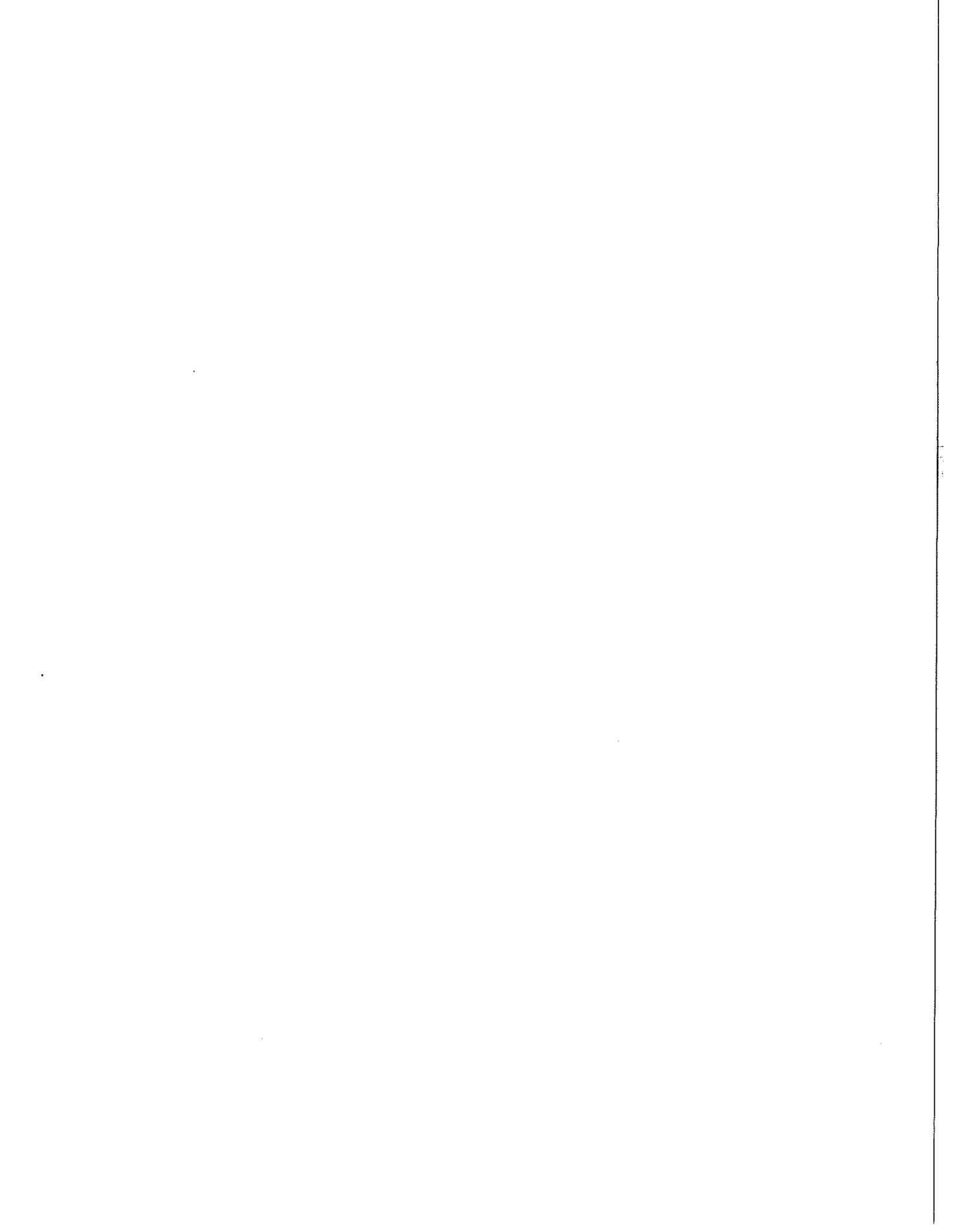
- e. Renewal Standards - *The Committee found that standards for licensure renewal required review and revision to bolster the enforcement of continued competence. Model Legislation (Required Reports) provides for such updating.*
- f. Grounds for Professional Discipline - *The Committee found a great variance among the statutes in this area. Model Legislation provides grounds for professional discipline which are focused on the delivery of service and quality of care rendered by the practitioner. Application of these grounds to all regulatory boards under the aegis of the DOHS insures a rational and uniform basis for peer review and imposition of disciplinary sanctions.*

- g. Receiving and Processing Complaints - An area of considerable controversy, mechanisms for receiving and processing complaints in the Model Legislation are delineated to provide the professional board with necessary information and input at appropriate stages, while maintaining the separation of powers and duties necessary in this regulatory aspect.
- h. Disciplinary Sanctions - Model Legislation explicates a range of disciplinary sanctions and requires consistency and uniformity in their application.



SECTION III

ENTITY DATA AND ANALYSIS



ENTITY DATA AND ANALYSIS

Section 2c-6 of Connecticut's Sunset Law mandates that the entity reviewed demonstrate a "public need for (its) reestablishment" and that "it has served the public interest and not merely the interests of the persons regulated." All boards, commissions and departments evaluated in Sunset Review 1980 received a questionnaire which addressed the nine statutorily specified Sunset criteria.

This questionnaire, the primary instrument used to evaluate the entity's "burden of proof," was followed by staff interviews with key board members and members of the professional associations for further clarification and amplification:

The following section contains the questionnaire sent to the State Board of Chiropractic Examiners. Where appropriate, Committee staff has edited the agency response without altering or diluting the argument. Committee staff then analysed the agency response. Because of the methodological constraints posed by Sunset evaluation and implementation of Executive Reorganization occurring simultaneously, manageable quantitative data were difficult to obtain. Qualitative analysis, based on relevant information and data derived from a variety of sources, was used primarily in the Committee staff comment. This annotation appears in italics below the agency response.

1. WOULD THE TERMINATION OF LICENSING REQUIREMENTS FOR YOUR PROFESSION SIGNIFICANTLY ENDANGER THE PUBLIC HEALTH, SAFETY, OR WELFARE? PLEASE EXPLAIN.

Yes. The Chiropractic profession treats a wide variety of disease and injury and other health related problems with a drugless approach. Any elimination of licensing for this profession would result in unqualified people treating health, injuries and disease entities and, therefore, would represent a danger to the public health and welfare.

Chapter 372 of the C.G.S. authorizes chiropractors to diagnose and treat the human body. The practitioner may employ, with independent authority, any one or several of mechanical, electrical, natural or physical modalities and treatments. While the practice of chiropractic is perceived by the Connecticut state board as relatively young,¹ its growth in numbers of practitioners has been noted as "phenomenal."² Nationally, chiropractic is now one of the largest health care professions and is licensed in all states and the District of Columbia.

2. COULD THE PUBLIC BE ADEQUATELY PROTECTED BY ANOTHER STATUTE, OFFICE, OR PROGRAM? IF SO, WHICH ONE(S)?

No.

Current regulatory structure in Connecticut provides for professional expertise and peer review in the entry and enforcement of standards through a professional/public board. Unless or until other systems are in place to tap professional expertise when needed, the board structure and functions remain necessary.

Merger of the chiropractic board with other health regulatory boards was considered not feasible due to the distinct theoretical and, in some cases, political differences among the various healing arts. Chiropractic is a healing art which challenges some of the fundamental tenets of traditional medicine. A noted medical sociologist observes that,

¹ Dr. P. Labbadia, Secretary of the Connecticut Board of Examiners, remarked that "the profession is really only 5 - 10 years old," staff interview, February 15, 1979.

² Walter Wardwell, "Public Regulation of Chiropractic," Journal of the National Medical Association, vol. 53, March 1961, p.p. 166-172.

"Some practitioners, although they ordinarily treat nearly the entire range of human disease, have attained only marginal professional status because their whole approach to the problem of health and disease conflicts with that of orthodox medicine.... They tend to reject such basic tenets of modern medicine as that disease is caused by bacterial agents which can be treated by drugs or prevented by inoculation, or they espouse a monocausal theory of illness and therapy.... For these reasons the relationships between marginal practitioners and organized medicine are usually unstable, and the overall professional standing of these groups tends to be ambiguous."¹

The committee staff found that the retention of a separate board for chiropractic is necessary to preserve a healthy distinction between orthodox medicine and drugless healing arts.

3. COULD THE PUBLIC BE ADEQUATELY PROTECTED BY A LESS RESTRICTIVE METHOD OF REGULATION THAN THE CURRENT LICENSING REQUIREMENTS, SUCH AS CERTIFICATION OR REGISTRATION? PLEASE EXPLAIN.

No. General certification or registration would be a danger for the following reason. At the present time there are approximately 20 chiropractic colleges in the United States. Only nine of these schools are approved or provisionally approved by the Chiropractic Council on Education "CCE." The CCE is the accrediting agency recognized by Health, Education and Welfare (HEW) in Washington, D. C. Connecticut accepts graduates of schools approved by the CCE and our opinion is that any change in the present method of regulations such as certification or registration without examination would allow graduates from unqualified schools to practice in this state and, therefore, create a danger to the public health and safety.

Licensing has been found to be the most appropriate and necessary level of regulation for the healing arts practitioners. The LPR&IC has found, however, that certain entry requirements in the chiropractic statutes--age, state residency and good repute--are excessive and not relevant to determination of professional competency. These requirements, therefore, are recommended for statutory deletion.

¹ Walter Wardell, "Limited, Marginal, and Quasi-Practitioners," in Handbook of Medical Sociology, Freeman, Howard and Levine, Sol, eds. 1972.

4. DOES YOUR BOARD OR COMMISSION HAVE THE EFFECT OF INCREASING THE COSTS OF GOODS OR SERVICES TO THE PUBLIC EITHER DIRECTLY OR INDIRECTLY? PLEASE EXPLAIN THE BASIS FOR YOUR ANSWER.

This board does not have a direct or indirect effect of increasing costs of services. There has been an approximate 75 percent increase in the number of licensed chiropractors in Connecticut in the past three years. Therefore, having a stabilizing effect on costs and increasing services provided to the public without restricting of competition.

Monies generated by the board in licensing and examination fees totaled \$17,990 for 1978. The board expended \$3,414.

Indirect costs to the public, which may result from the increased prestige, education, and costs which licensure of chiropractors incurs, are difficult to quantify at present. However, research on the economic effects of regulation indicates that licensing does have the effect of increasing earnings in the licensed occupations and that licensing of an occupation reduces the number who practice in that occupation.¹ These effects can produce increased consumer costs.

5. IF YOUR BOARD HAS THE EFFECT OF INCREASING COSTS, IS THE ADDITIONAL COST JUSTIFIED THROUGH PUBLIC BENEFITS ATTRIBUTABLE TO THE ACTIONS OF THE BOARD? PLEASE EXPLAIN.

This board does not feel that there is a justifiable reason for believing that we effect increased costs in this profession as there is no limitation on increasing the number of practitioners in this field.

Despite the above indications that licensing may increase costs, the public protection gained from this level of regulation is considered necessary.

6. IS THE EFFECTIVENESS OF YOUR BOARD OR COMMISSION HAMPERED BY EXISTING STATUTES, REGULATIONS OR POLICIES, INCLUDING BUDGET AND PERSONNEL POLICIES. IF SO, PLEASE BE SPECIFIC IN YOUR ANSWER.

¹ For an excellent overview of recent research on the topic, see Simon Rottenberg, A Review of the Professional Literature on Occupational Licensing, conference paper, Crotonville, New York, April 28, 1978.

Yes. Our present regulations and budget do not allow us to employ other experts to help conduct the examination and no funds are available for clerical help. The chiropractic profession has had an unprecedented increase in enrollment in all the colleges throughout the country. This has resulted in a greatly increased number of chiropractors seeking licensure in Connecticut. For example, in the 50 year period from 1927 to 1975, there were fees generated from licenses and applications of less than \$500 a year. In the 1976-1977-1978 period there has been approximately 150 applicants examined and fees generated from these applicants has been approximately \$23,000 or \$8,000 a year. Because of this dramatic increase in applications, there has been a corresponding increase in clerical duties. The examination itself requires additional qualified personnel to conduct the parts of the clinical examination in x-ray, chiropractic orthopedics, neurology and in chiropractic technique...

7. WHAT STATUTES AND REGULATIONS IMPINGE DIRECTLY ON THE OPERATIONS OF YOUR BOARD? PLEASE LIST OR ATTACH COPIES.

The chiropractic statutes calling for a three member board should be reviewed because of increased applicants taking this board and we feel there should be a reasonable expansion of the number on this board in the near future.

Committee staff has noted the marked increase of chiropractors in Connecticut since 1976. The board does not subscribe to a national examination and prepares and administers its own written and practical exams. They have had to seek assistance from members of the professional association to perform the examination function. The LPR&IC has, therefore, recommended that board membership be increased from three members to seven, with four professional and three public representatives. These additional members should offset the need to seek outside assistance and should enhance examination efficiency.

8. TO WHAT EXTENT HAVE QUALIFIED APPLICANTS BEEN PERMITTED TO ENGAGE IN THE PROFESSION(S) OR OCCUPATION(S) LICENSED BY YOUR BOARD? PLEASE COMMENT ON WAITING PERIODS, DELAYS, PAPERWORK, ETC.

Applicants are not allowed to practice this profession before receiving a license. There is no unreasonable delay by the applicants successfully passing our board and the procurement of a license from the State Board of Health.

The board is statutorily responsible to publish notice of examinations in a newspaper with a circulation within the county of the given examination at least 15 days prior to such exam. It must also file within 30 days of the examination, a list of those examined stating those who passed and failed. In addition, the secretary of the board is required to file annually with the Department of Health Services a list of chiropractic colleges recognized by the board as legal and reputable. There have been no obvious violations of this mandate.

Testimony at LPR&IC public hearings and staff interviews with professionals revealed that Connecticut is one of the more difficult states in which to obtain chiropractic licensure. Like 11 other states, the board does not prescribe to a national exam, but does subscribe to a national accrediting agency, The Council on Chiropractic Education (CCE), for its approval of schools. The recommendations under this Sunset review provide for mandatory review and revision of all standards for entry and education by the boards and the Department of Health Services. This review is to be conducted in accordance with the recommended Model Legislation. Its intent is to insure that such standards are relevant and not restrictive while maintaining competency in the statutorily defined scope of practice.

It should be noted that the New England region (and the East South Central region) has the lowest chiropractor/population ratio in the country (see Table I). While this fact should not suggest compromising the quality of licensees in Connecticut, it should be considered in the reevaluation of entry standards.

9. WHAT ACTIONS HAS YOUR BOARD OR COMMISSION TAKEN TO INSURE COMPLIANCE WITH FEDERAL AND STATE AFFIRMATIVE ACTION POLICIES AND TO ENCOURAGE ACCESS BY WOMEN AND MINORITIES INTO YOUR PROFESSION?

Examination by this board for licensure is open to any graduate of an approved qualified college without restrictions or limitations. At the present time, approximately 18 percent of the practicing chiropractors are women. We have no figures available for ethnic distribution, but again, there are no limitations regarding that aspect.

10. WITHIN THE PAST FIVE (5) YEARS, WHAT CHANGES IN STATUTE, RULES OR REGULATIONS HAS YOUR BOARD OR COMMISSION RECOMMENDED WHICH WOULD BENEFIT THE PUBLIC AS OPPOSED TO LICENSEES?

None.

11. WHAT HAS YOUR BOARD OR COMMISSION DONE TO ENCOURAGE PUBLIC PARTICIPATION IN THE FORMULATION OF YOUR RULES, REGULATIONS AND POLICIES?

None.

12. WHAT HAS BEEN YOUR PROCESS THROUGH DECEMBER 31, 1978, TO RESOLVE PUBLIC COMPLAINTS CONCERNING PROFESSIONALS REGULATED BY YOUR BOARD OR COMMISSION?

Complaints against professionals licensed by this board have been resolved by gathering information via the phone or by letter from the claimant and also from the professional involved. We then attempt to negotiate a mutually satisfactory settlement of any differences between the aggrieved parties and the professional. To this date, all complaints received over the past two years have been successfully terminated to a mutually satisfactory agreement in this manner without formal hearing.

The board reported receipt of five complaints, all investigated, in 1978.

Like other boards prior to the Executive Reorganization Act, the Board of Chiropractic Examiners maintained its own informal complaint procedure. Complaints were screened, investigated and adjudicated by a single board. This system lacked consistency and the necessary countervailing powers to insure objectivity, equitable treatment and accountability. Executive Reorganization and the recommendations made under this Sunset review are designed to provide and refine these essential aspects of the complaint process and to insure that appropriate steps of the Uniform Administrative Procedures Act (Chapter 54) are followed.

13. WITHIN THE PAST FIVE (5) YEARS, WHAT STATUTES, RULES, OR REGULATIONS HAS YOUR BOARD OR COMMISSION PROPOSED OR ADVOCATED TO PROTECT YOUR PROFESSION FROM THE LICENSURE OF UNQUALIFIED PERSONS?

As previously stated, there are approximately 20 schools of chiropractic located across the United States, nine of which are approved by the Council on Chiropractic Education which adheres to the academic guidelines established for professional schools by the Health, Education and Welfare Agency in Washington, D. C..... This Board continues to review the various colleges and their academic programs and their criteria for accreditation yearly. The State of Connecticut receives a list of qualified schools yearly and

the board attempts to maintain an up-to-date observation of each school throughout the United States. We feel that this method has been successful in maintaining a high level of chiropractors presently practicing in Connecticut and we are hopeful that continuance of this policy will insure the continuation of these high standards.

During Sunset evaluation, there was some debate between two theoretical factions of chiropractic--the "straights" and "mixers." A special meeting was held with representatives of each faction, committee co-chairmen and committee staff to discuss the issue of school approval by the Board of Chiropractic Examiners. It was determined that the board had been in statutory compliance regarding its approval procedures. Recommendations in this Sunset Review provide for review and revision of entry standards and regulatory procedures including approval of schools (see Model Legislation - Required Reports). Such review is to be conducted in accordance with the Model Act and the principles of Sunset to insure that all requirements are relevant and non-restrictive.

SECTION IV

APPENDIX



TABLE I
 NUMBERS OF CHIROPRACTORS AND POPULATION RATIOS
 UNITED STATES AND CANADA, JANUARY 1, 1978

Area	Licensed Chiropractors	Resident Chiropractors	Resident Chiropractors Per 100,000 Population
UNITED STATES	<u>30,530</u>	<u>22,100</u>	<u>11</u>
NEW ENGLAND	<u>1,513</u>	<u>825</u>	<u>7</u>
Maine	192	73	7
New Hampshire	494	286	33
Vermont	245	46	9
Massachusetts	390	280	5
Rhode Island	42	33	4
Connecticut	150	106	4
MIDDLE ATLANTIC	<u>3,697</u>	<u>3,294</u>	<u>9</u>
New York	<u>1,467</u>	1,400	8
New Jersey	962	817	12
Pennsylvania	1,268	1,077	9
EAST NORTH CENTRAL	<u>3,891</u>	<u>3,352</u>	<u>8</u>
Ohio	646	610	6
Indiana	444	378	7
Illinois	1,143	961	9
Michigan	1,013	865	9
Wisconsin	645	538	12
WEST NORTH CENTRAL	<u>4,839</u>	<u>3,255</u>	<u>19</u>
Minnesota	687	579	15
Iowa	1,279	686	24
Missouri	1,717	1,305	27
North Dakota	116	30	5
South Dakota	168	109	16
Nebraska	133	78	5
Kansas	739	468	20
SOUTH ATLANTIC	<u>3,766</u>	<u>2,376</u>	<u>8</u>
Delaware	57	23	4
Maryland	282	164	4
Dist. of Columbia	12	6	1
Virginia	137	98	2
West Virginia	128	72	4
North Carolina	514	320	6
South Carolina	222	222	9
Georgia	581	387	9
Florida	1,833	1,084	13
EAST SOUTH CENTRAL	<u>2,617</u>	<u>928</u>	<u>7</u>
Kentucky	1,509	384	11
Tennessee	274	155	4
Alabama	534	289	8
Mississippi	300	100	4
WEST SOUTH CENTRAL	<u>2,570</u>	<u>1,943</u>	<u>9</u>
Arkansas	262	181	8
Louisiana	307	280	7
Oklahoma	742	395	14
Texas	1,259	1,087	8

¹ Walter Wardwell, "The Present and Future Role of the Chiropractors", Chapter in Principles and Practice of Modern Chiropractic, Appleton, Century Crafts: c. January 1980.

TABLE I - Continued

<u>Area</u>	<u>Licensed Chiropractors</u>	<u>Resident Chiropractors</u>	<u>Resident Chiropractors Per 100,000 Population</u>
MOUNTAIN	<u>2,058</u>	<u>1,353</u>	<u>13</u>
Montana	171	98	13
Idaho	121	97	11
Wyoming	72	51	12
Colorado	392	298	11
New Mexico	306	182	15
Arizona	591	385	17
Utah	174	174	14
Nevada	231	68	11
PACIFIC	<u>5,547</u>	<u>4,774</u>	<u>16</u>
Washington	719	595	16
Oregon	401	328	14
California	4,292	3,782	17
Alaska	39	33	8
Hawaii	96	36	4
PUERTO RICO	239	19	0.5
CANADA	<u>2,066</u>	<u>2,005</u>	<u>9</u>
*Prince Edward Island	2	2	2
Nova Scotia	19	19	2
New Brunswick	20	16	2
Quebec	485	477	8
*Ontario	880	880	10
*Manitoba	62	62	9
Saskatchewan	60	57	6
Alberta	308	262	14
British Columbia	230	230	9

Source: "1978-79 Official Directory of Chiropractic and Basic Science Examining Boards, with Licensure and Practice Statistics," Federation of Chiropractic Licensing Boards, 501 East California Avenue, Glendale, California 91206, plus other sources. Population data for January 1, 1978 from Metropolitan Life Insurance Company Statistical Bulletin 59 (April-June, 1978): 11-12.

* "Total licensed" figures for these provinces are for 1979 and were provided by President Donald Sutherland of Canadian Memorial Chiropractic College. They were also used in the "resident" column to calculate the total for Canada and the population ratios for the three provinces.

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Staff reviewed the following sources in addition to the information gathered from interviews, public hearings, special meetings, and the board and the Department of Health Services files.

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