MINUTES

MONTANA HOUSE OF REPRESENTATIVES
52nd LEGISLATURE - REGULAR SESSION

COMMITTEE ON HUMAN SERVICES & AGING

Call to Order: By Rep. Angela Russell, Chair on February 6, 1991, at 12:05 p.m.

ROLL CALL

Members Present:

Angela Russell, Chair (D)
Tim Whalen, Vice-Chairman (D)
Arlene Becker (D)
William Boharski (R)
Jan Brown (D)
Brent Cromley (D)
Tim Dowell (D)
Patrick Galvin (D)
Stella Jean Hansen (D)
Royal Johnson (R)
Betty Lou Kasten (R)
Thomas Lee (R)
Charlotte Messmore (R)
Jim Rice (R)
Sheila Rice (D)
Wilbur Spring (R)
Carolyn Squires (D)
Jessica Stickney (D)
Bill Strizich (D)
Rolph Tunby (R)

Staff Present: David Niss, Legislative Council
Jeanne Krumm, Committee Secretary

Please Note: These are summary minutes. Testimony and discussion are paraphrased and condensed.

Announcements: The committee met at 12:00 p.m. to take executive action. They recessed at 1:25 p.m. until 3:00 p.m.

EXECUTIVE ACTION ON HB 410

Motion: **REP. BOHARSKI MOVED HB 410 DO PASS.**

Motion/Vote: **REP. BOHARSKI** moved to amend HB 410. Motion carried 19-1 with **REP. KASTEN** voting no.

1. Title, lines 6 and 7.
Strike: "UNLESS THE SERVICE TO BE PROVIDED AT THE OFFICE IS SUBJECT TO A CERTIFICATION."

2. Page 4, line 20.
Strike: "unless"

3. Page 4, lines 21 and 22.
Strike: all of line 21 through "need" on line 22

Motion/Vote: REP. BOHARSKI MOVED HB 410 DO PASS AS AMENDED. Motion carried unanimously.

EXECUTIVE ACTION ON HB 413

Motion: REP. MESSMORE MOVED HB 413 DO PASS.

Motion: REP. J. RICE moved to amend HB 413.

Page 5, line 6.
Strike: "surgically"
Following: "abnormalities"
Insert: ", except that a licensed denturist may apply tissue conditioning agents"

Discussion:

REP. TUNBY stated that if the word "surgically" is removed, then it would change everything. **REP. J. RICE** stated that the intent was not to diagnose or treat any abnormality because it is current law. If "surgically" were struck, it would raise other problems.

Vote: Motion carried unanimously.

Motion: REP. KASTEN moved to amend HB 413.

Page 5, lines 22 through 25.
Following: line 21
Strike: subdivision (d) in its entirety

Discussion:

REP. MESSMORE asked what this amendment does. **REP. KASTEN** stated that the denturists would have to have some association with the dentists in order to do the things that are needed.

REP. LEE stated that dentists agree that there are certain conditions that can exist in the mouth in fitting a partial. A denturist is not trained to diagnose difficulties or adjust a condition in the mouth to adequately treat the patient. This is not controlling what the denturists can and cannot do necessarily, but there is patient concern, which is a consumer issue.

REP. HANSEN stated that if a patient refuses to see a dentist there isn't much someone can do. If the patient comes to a denturist to have a new set of teeth made, the liability is on

the patient, not the denturist. If this is taken out of the bill, you are taking out a part of the bill.

REP. BOHARSKI stated that **REP. HANSEN** is correct. This only deals with the partial.

REP. CROMLEY stated that he supports the amendment. Putting this in the bill would put a lot of responsibility on the patient who may not see a dentist who signed a waiver saying it is all right to work on the denture. He has made a dental decision that most patients don't have.

REP. MESSMORE stated concern that by deleting this, it would mean forcing a denturist to have a working relationship with the dentist. One consideration could be that the denturist would not be able to proceed in fitting a partial denture unless the patient had seen a dentist within 60 or 90 days.

REP. LEE stated that they are making a policy decision on behalf of the patient. They need to protect the patient even from himself in this instance. On page 5, line c, the current law asks the denturist and dentist to cooperate.

REP. KASTEN stated that they didn't want to set up a practice for the denturist. If anyone could waive their right and say, "I trust you to do what I want you to do," we are allowing them to go out on their own without any connection with the professional person who should be directing such things.

REP. HANSEN stated there is a different issue. If a patient goes to a denturist to have a new set of teeth made, and that denturist sees that there is something wrong having already gone through this procedure with the dentist, he is not going to do anything that he shouldn't do as defined in this bill. The problem is getting that patient in to see a dentist.

Motion: **REP. HANSEN** made a substitute motion to amend HB 413.

Page 5, line 23
Insert: , "within 60 days"

Discussion:

REP. SQUIRES stated concern about the liability issue. If this person makes a mistake, and if this is taken out, who is liable, the dentist, the patient or the denturist? If left in, whose liability is it? **David Niss** stated that this section is a mandatory requirement that applies only to the actions of the denturist prior to making and fitting the denture. Even if this language didn't exist, it would probably be the case that the denturist could preventing the patient from using the waiver. By removing this, we are not presented the denturist with that waiver.

REP. CROMLEY stated that dentures cannot be replaced without the patient seeing the dentist.

REP. BOHARSKI stated if a person were to sign a waiver to his optometrist, then he can do a diagnosis even though he is not trained to do it.

Vote: Substitute motion failed 2-18 with **REPS. WHALEN and JOHNSON** voting aye.

Vote: Motion carried 17-3 with **REPS. RUSSELL, HANSEN, and WHALEN** voting no.

Motion: **REP. BOHARSKI** moved to amend HB 413.

Page 4, line 9.
Strike: "or a"
Insert: "and may also be made by a board-"

Discussion:

REP. RUSSELL stated that she would resist the amendment because the committee has made some changes. They are in a better position to determine continuing education and it should be left the way it is.

Roland D. Pratt stated that the denturist association would not want to be the only ones that would recognize it.

Vote: Motion carried 15-5 with **REPS. RUSSELL, WHALEN, STICKNEY, DOWELL, and HANSEN** voting no.

Motion/Vote: **REP. STICKNEY MOVED HB 413 DO PASS AS AMENDED.** Motion carried unanimously.

EXECUTIVE ACTION ON HB 299

Motion: **REP. S. RICE MOVED HB 299 DO PASS.**

Motion: **REP. S. RICE** moved to amend HB 299.

Page 1, line 14.
Strike: "shall"
Insert: "may"

Page 2, line 9, section 2.
Following: "that"
Strike: everything from "contained" to the end of the next line.
Insert: "any of the following"

Page 2, line 22, subpart 2
Strike: all of line 22,

Page 2, line 23
Strike: "the"

Discussion:

REP. TUNBY asked how this differs from current law. **REP. S. RICE** stated that present law states all the reasons that the court cannot terminate and it adds another reason the state has failed to complete a treatment plan. It gives the judge another option of terminating parental rights.

REP. J. RICE asked if on the final amendment on page 2 is there a (.) after treatment plan. **REP. S. RICE** said no, the sentence keeps going.

REP. J. RICE stated that the court may terminate parental rights. Under the new section it would be simpler to try to strike so there won't be two separate statutes in section 1 in the existing statute. **REP. S. RICE** asked if section (d) was included in subsection 1 and 2.

Vote: **REP. S. RICE** withdrew her motion. There was no action taken on HB 299.

EXECUTIVE ACTION ON HB 246

Motion: **REP. WHALEN MOVED HB 246 BE TABLED.**

Discussion:

REP. WHALEN stated that he agrees with part of the concept of the legislation that mandates certain health insurance coverage. This bill sets out a sunrise mechanism which prevents a person from bringing a piece of legislation into the legislature similar to what we already have as far as licensure bills. He doesn't agree with the system that has been set up.

Vote: Motion carried 15-5 with **REPS. MESSMORE, TUNBY, SPRING, JOHNSON, and J. RICE** voting no.

EXECUTIVE ACTION ON HB 355

Motion: **REP. CROMLEY MOVED HB 355 DO NOT PASS.**

Motion: **REP. HANSEN MADE A SUBSTITUTE MOTION THAT HB 355 DO PASS.**

Motion: **REP. S. RICE** moved to amend HB 355 with amendments 1, 4, 5, 6 and 7. **EXHIBIT 1**

Discussion:

REP. JOHNSON asked how they arrived at these figures. **REP. S. RICE** stated they deserve about a 50% increase based on inflation.

These benefits were set in 1983. We applied a 50% benefit, but left it at $7,000 because he estimates the Senate will cut at least another $1,000.

REP. BOHARSKI asked what providers or insurance people think this type of inflational increase mandated benefits is going to do with this probable cost of health care to the 28% of the damage occurred to be limited and shared because of the mandated benefits. **REP. S. RICE** stated that they all share the opinions about mandated benefits. She has the same information as the committee in regards to what the mandated benefits under this would do to insurance cost.

Vote: Motion carried 18-2 with **REPS. KASTEN** and **LEE** voting no.

Motion: **REP. S. RICE** moved to amend HB 355.

Page 4.
Strike: lines 15 through 19.

Discussion:

REP. S. RICE stated that without this amendment, the bill would take things away from the insurance providers in terms of their abilities to have a utilization.

REP. WHALEN asked what restrictions there are currently, as to who is to provide benefits under this mandated coverage. What is the effect of the language contained on the bottom of the amendments? **David Niss** stated that the effect of the language in the current subsection 3 on page 4, lines 15 through 19 would be to prohibit the insurer from limiting the care and treatment he was going to pay for as long as the care of treatment was prescribed by a health care professional licensed under Title 37.

Motion/Vote: **REP. WHALEN MOVED HB 355 BE TABLED.** Motion carried 17-3, with **REPS. DOWELL, HANSEN and RUSSELL** voting no.

HEARING ON SB 66

Presentation and Opening Statement by Sponsor:

SEN. MIKE HALLIGAN, Senate District 29, Missoula, stated this is a licensure bill. This bill deals with a relatively new profession in Montana. The general public has moved away from the heavy use of drugs. Naturopaths deserve to be licensed they have a comparative curriculum. Looking at the qualifications and who goes to school the longest and in what areas, one will have to recognize the importance of the basic curriculum by the two main policy relations. This is a very important freedom of choice issue for people in the health care area. It doesn't tell people to go to a naturopath. The second portion of the bill says that licensing is also there to protect the public. The Senate was concerned about the scope of practice. Are these

people qualified to do the things they say they do? Naturopaths can do minor surgery that involves only incidental or superficial lacerations or abrasions. The naturopaths do not want to dispense legend drugs.

Proponents' Testimony:

Michael Bergkamp, Montana Association of Naturopathic Physicians, submitted written testimony. **EXHIBITS 2, 3 & 4**

Allen Lefohn, submitted written testimony. **EXHIBITS 5 & 6**

Dr. Nancy Dunn, Montana Association of Naturopathic Physicians, stated that she was an out-of-hospital birth attendant for twelve years, a registered nurse for ten years and for eight of those years she was a hospital staff nurse. She is a graduate of the National College of Naturopathic Medicine and holds a certificate of special competency in natural childbirth in the State of Oregon. She has a deep respect and appreciation for both branches of medical sciences. The mutual respect and ease of interaction between the complimentary sciences of medicine allow for the greatest benefit to the public.

Dr. Mary Stranahan, General Practitioner in St. Ignatius, submitted written testimony. **EXHIBIT 7**

Printer Bowler stated that his father was brought into this world by a naturopathic physician. Health education is really important because it isn't just fix it when something goes wrong, it's how to stay healthy.

Dave Ford, Chairman, Lewis and Clark Commission, stated that one consideration in the adopted naturopathic medicine in the health plan is that the administrative health plan assured them that it would save money and it has.

Nancy Aagenes, Montana Association of Naturopathic Physicians, went on record in support.

Todd Schlamper, Naturopathic Physician, went on record in support.

P.J. Hennessy, M.D., self, submitted written testimony. **EXHIBIT 8**

Dr. Russell, M. Jaffe, M.D., self, submitted written testimony. **EXHIBIT 9**

Opponents' Testimony:

Jerry Loendorf, Montana Medical Association stated that the issues are fundamental. The health care license applies to one that proposes service, frequent or whatever, to the public. The State of Montana has never told a person to go to a naturopathic

physician and that it will work. The difference between going to a naturopathic physician as opposed to a licensed health care professional is that the Legislature has approved the licensed health care professional.

Edward Bergin, Montana Medical Association, Montana/Wyoming Chapter, stated that the advances brought forth by the practice of medicine have been sometimes overwhelming. Naturopathic physicians have not been through the same curriculum as physicians of a school of medicine. This is not a turf battle, but he feels naturopathic physicians are not qualified to be treating people the way they do.

Bonnie Tippy, Montana Chiropractic Association, went on record in opposition.

Steve Browning, Montana Hospital Association, went on record in opposition.

Cindy Lewis, Montana Dietetic Association, submitted written testimony. **EXHIBIT 10**

Dr. Garrett Dale, Department of Justice, State Medical Examiners, went on record in opposition.

James Ahrens, President, Montana Hospital Association, submitted written testimony. **EXHIBIT 11**

Roger Tippy, Montana Pharmaceutical Association, went on record in opposition. **EXHIBIT 12**

R.D. Marks, M.D., self, submitted written testimony. **EXHIBIT 13**

Questions From Committee Members:

REP. CROMLEY asked how would this bill protect the status of the naturopaths. **Mr. Leondorf** stated that he cannot say that it will. They will continue to practice as they are now. All the bill says is that the state approves.

REP. CROMLEY asked if there has been any attempt by organizations to keep naturopaths from practicing. **Mr. Leondorf** stated none that he knows of.

REP. LEE asked Mr. Dale what experience he has had with naturopaths. **Mr. Dale** stated that he was doing an autopsy on a patient and the family members asked him if the patient had cancer. He said that the patient didn't have cancer. The patient's family said that a naturopathic physician had been treating this patient for cancer. This naturopathic physician was misapplying a test and using it to monitor the patient for what the naturopathic physician had misdiagnosed for four years as her having cancer.

REP. BROWN asked what is the purpose of the amendments. **Mr. Tippy** stated that all legend drugs, in which the FDA requires dispensed upon the prescription of a physician or other provider such as veterinarian, not be within the scope of naturopathic practice of legend drug prescribing and dispensing. The dispensing of drugs is regulated in the courts under very restrictive guidelines.

REP. BROWN asked for his response to the amendment presented. **Mr. Bergkamp** stated that the naturopathic physicians had developed language with the Pharmacy Board on this matter. They took out antibiotics. All that remains in this bill that one would call a legend drug is whole gland thyroid.

Dr. Aagenas stated that naturopaths are practicing primary care medicine and they believe there must be minimum standards applied to what they do. They complete a minimum of four professional curriculums and minimum testing standards before calling themselves naturopathic doctors. They are not trying to restrict anyone's scope of practice, nor say that they want their scope of practice defined.

REP. JOHNSON asked if they are qualified to be licensed under the current Montana law or could be licensed under another board if they so choose. **Dr. Aagenas** stated that she is licensed as an acupuncturist by the Board of Medical Examiners. Her training in oriental medicine and acupuncture is two to three years over and above her six years in naturopathic medicine. Her colleagues are not acupuncturists and do not have the medical scope of practice that she and Dr. Bergkamp do.

REP. JOHNSON asked what will happen to the naturopathic physician that diagnosed the patient as having cancer for four years before she died. **Dr. Dale** stated that he contacted the Board of Medical Examiners. They said that naturopathic physicians are not licensed and there wasn't much they could do.

REP. J. RICE asked about the provision dealing with childbirth, on page 5, subsection 8. It defines naturopathic childbirth dependents in minor form by the described antibiotics and emergency medicines of minor surgery. **Dr. Bergkamp** stated there are state laws that require of a prophylactic application of an antibiotic in certain diseases. Natural childbirth is a serious form of health care.

REP. J. RICE asked if that included episiotomy. **Dr. Bergkamp** said no.

REP. J. RICE referred to page 9, section 7, where it states that a naturopathic physician may not practice naturopathic childbirth until certified. Then it states the requirements are that a person must attend 50 childbirths and in 25 of them must be the primary birth attendant. **Dr. Dunn** stated they must have residency for nine months, supervised by licensed physicians and

a team of practitioners. At the point when that person is being graded, he functions as the primary care provider, he is then identified and essentially can sign the birth certificate.

REP. MESSMORE asked if naturopaths can immunize children. **Dr. Aagenas** stated that she does not immunize children, she refers them to a medical doctor.

REP. TUNBY asked if she actively promotes immunization. **Dr. Aagenas** stated that they operate under the policy to inform the parent so the parent can make the decision. She actively provides information on immunization.

REP. TUNBY asked if she refers patients to medical doctors. **Dr. Aagenas** stated that she couldn't practice without referring patients to medical doctors.

REP. CROMLEY stated that there are two colleges offering degrees in Naturopathic Medicine, do other colleges in the country offer courses in Naturopathic Medicine. **Dr. Bergkamp** said there are only two colleges that have accreditation status by the Department of Education.

REP. LEE asked what is included on the bottom of page 3, line 24, where operative methods for the surgical repair. **Dr. Bergkamp** stated that operative and electrical are considered the very instruments that we are talking about. A suturing needle would come under that qualification, one treatment that some Naturopaths do to control bleeding. They are very superficial.

REP. JOHNSON asked if there were an allied health care board, would this group be willing to be licensed under that proposal. **Dr. Aagenas** stated they are willing to write coordination and instruction into this bill.

REP. BOHARSKI asked what a legend drug is and if oxytocin was one. **Dr. Dunn** stated that a legend drug is one protected by law and yes, oxytocin is.

REP. LEE asked what amount of class time was devoted to spinal manipulation. **Dr. Bergkamp** stated he had a minimum of 200 hours which did not include the clinical application. **Dr. Dave Gray** stated that 2,018 clinical hours are required. Between 600 to 800 hours of the 2000 is on chiropractic manipulative techniques. This varies from school to school.

Closing by Sponsor:

SEN. HALLIGAN stated that the Naturopaths need to be licensed, otherwise the public will not be protected. If he didn't feel there was a scientific foundation or that the education wasn't there he wouldn't be here.

HEARING ON HB 429

Presentation and Opening Statement by Sponsor:

REP. BETTY LOU KASTEN, House District 28, Brockway, stated that this bill grants a medical parole for individuals who have an incapacitating illness or disease and who do not present a danger to society. They must have this certified by a doctor, while the examination or misdiagnosis and also a prognosis of what their recovery might be. This does not, in any way, diminish the Board of Pardons or remove any of the safeguards that the Board provides to society.

Proponents' Testimony:

Dan Russell, Administrator, Corrections Division, Department of Institutions, stated that this bill was requested by the Department of Institutions (DOI). Currently neither the Board of Pardons or DOI is capable of placing medically incapacitated or terminally ill inmates on parole who are no danger to society. They remain a financial burden on the state. These cases are rare but do occur. There is no option but to pay their bills with General Fund money. Medical paroles will enhance the inmate's eligibility for private insurance for Medicaid benefits and for care outside the prison.

Opponents' Testimony: None

Questions From Committee Members:

REP. SQUIRES asked if this is another shift of dollars. **Mr. Russell** stated that some people have their own insurance. In other instances it is.

Closing by Sponsor:

REP. KASTEN stated that this is not one of the recommendations from the Criminal Justice and Corrections Committee. It was discussed, but was never put in the form of a recommendation. The state's correctional policy is that a person convicted of crime shall be dealt with in accordance with individual characteristics, circumstances, needs and potentiality. Seriously ill persons should have available speedient mechanisms that would enable them to apply for parole while completing their minimum sentence. Most prisons do not have the staff to care for these inmates. This is a good bill which allows a person dignity at a time when he most needs that.

EXECUTIVE ACTION ON HB 429

Motion/Vote: **REP. MESSMORE MOVED HB 429 DO PASS.** Motion passed unanimously.

HEARING ON HB 468

Presentation and Opening Statement by Sponsor:

REP. THOMAS LEE, House District 49, Big Fork, stated that this bill was requested by the Department of Social and Rehabilitative Services for two reasons. First to cleanup administration and accounting language, and secondly to standardize some of their accounting procedures. Because of recent developments in the subcommittee and the Governor's budget, SRS said they no longer need this bill.

Proponents' Testimony: None

Opponents' Testimony: None

Questions From Committee Members: None

Closing by Sponsor: REP. LEE closed on HB 468.

EXECUTIVE ACTION ON HB 468

Motion/Vote: **REP. STICKNEY MOVED HB 468 BE TABLED.** Motion carried unanimously.

ADJOURNMENT

Adjournment: 6:00 p.m.

ANGELA RUSSELL, Chair

Jeanne Krumm, Secretary

AR/jck

HOUSE OF REPRESENTATIVES

HUMAN SERVICES AND AGING COMMITTEE

ROLL CALL **DATE** 2-6-91

NAME	PRESENT	ABSENT	EXCUSED
REP. ANGELA RUSSELL, CHAIR	✓		
REP. TIM WHALEN, VICE-CHAIR	✓		
REP. ARLENE BECKER	✓		
REP. WILLIAM BOHARSKI	✓		
REP. JAN BROWN	✓		
REP. BRENT CROMLEY	✓		
REP. TIM DOWELL	✓		
REP. PATRICK GALVIN	✓		
REP. STELLA JEAN HANSEN	✓		
REP. ROYAL JOHNSON	✓		
REP. BETTY LOU KASTEN	✓		
REP. THOMAS LEE	✓		
REP. CHARLOTTE MESSMORE	✓		
REP. JIM RICE	✓		
REP. SHEILA RICE	✓		
REP. WILBUR SPRING	✓		
REP. CAROLYN SQUIRES	✓		
REP. JESSICA STICKNEY	✓		
REP. BILL STRIZICH	✓		
REP. ROLPH TUNBY	✓		

CS05HUMSER.MAN

HOUSE STANDING COMMITTEE REPORT

February 6, 1991

Mr. Speaker: We, the committee on Human Services and Aging report that House Bill 410 (first reading copy -- white) do pass as amended .

Signed: _____
Angela Russell, Chairman

And, that such amendments read:

1. Title, lines 6 and 7.
Strike: "UNLESS THE SERVICE TO BE PROVIDED AT THE OFFICE IS SUBJECT TO A CERTIFICATE OF NEED"

2. Page 4, line 20.
Strike: "unless"

3. Page 4, lines 21 and 22.
Strike: all of line 21 through "need" on line 22

HOUSE STANDING COMMITTEE REPORT

February 6, 1991

Mr. Speaker: We, the committee on Human Services and Aging report that House Bill 413 (first reading copy -- white) do pass as amended .

Signed: _____
Angela Russell, Chairman

And, that such amendments read:

1. Title, line 6.
Strike: "PROHIBITING"
Insert: "AUTHORIZING"

2. Title, line 7.
Strike: "FROM TREATING ANY ABNORMALITY BY SURGERY"

3. Page 4, line 9.
Strike: "or a"
Insert: "and may also be made by a board-"

4. Page 5, line 6.
Strike: "surgically"
Following: "abnormalities"
Insert: ", except that a licensed denturist may apply tissue conditioning agents"

5. Page 5, line 21.
Strike: ";" (semicolon)
Insert: "."

6. Page 5, lines 22 through 25.
Following: line 21
Strike: subdivision (d) in its entirety

HOUSE STANDING COMMITTEE REPORT

February 7, 1991

Mr. Speaker: We, the committee on Human Services and Aging report that House Bill 429 (first reading copy -- white) do pass .

Signed: _____

Angela Russell, Chairman

EXHIBIT 1
DATE 2-6-91
HB 355

Amendments to House Bill No. 355
First Reading Copy

Requested by Rep. Sheila Rice

For the Committee on Human Services and Aging

Prepared by David S. Niss
February 6, 1991

1. Title, lines 7 and 8.
Strike: "PROVIDING SEPERATE MINIMUM AMOUNTS FOR ADULTS AND MINORS;"

2. Title, line 9.
Strike: "REQUIRING AN"

3. Title, lines 10 and 11.
Strike: all of lines 10 and 11
Insert: "PROHIBITING AN INSURER FROM REFUSING TO PAY FOR BENEFITS MANDATED BY LAW;"

4. Page 2, lines 20 and 21.
Strike: "$8,000 for an adult and $10,00 for a minor"
Insert: "$7,000"

5. Page 2, lines 22 and 23.
Strike: "$16,000 for an adult and $20,000 for a minor"
Insert: "$14,000"

6. Page 4, lines 1 and 2.
Strike: "$8,000 for an adult and $10,000 for a minor"
Insert: "$7,000"

7. Page 4, lines 3 and 4.
Strike: "$16,000 for an adult and $20,000 for a minor"
Insert: "$14,000"

8. Page 4, lines 15 through 19.
Following: "(3)"
Strike: the remainder of line 15 and all of lines 16 through 19
Insert: "An insurer, health service coporation, or an employees' health and welfare fund that provides accident and health insurance benefits to residents of the state under group

health insurance or group health plans may not refuse to pay for, and thus effectively limit, a type of care or treatment when benefits are mandated under this part."

EXHIBIT 2
DATE 2-6-91
SB 666

HYPERTENSION

DIAGNOSTIC SUMMARY

* Typically asymptomatic patient with a repeatable blood pressure reading of greater than 150/90 mm Hg
* Patients with acute severe hypertension (diastolic >150 mm Hg) or with somewhat lower pressures but with symptoms of headache, visual disturbance, somnolence, or other "crisis" symptoms must be hospitalized and treated on an emergency basis with parenteral hypotensive drugs.

GENERAL CONSIDERATIONS

According to standard medical thought, hypertension is divided into two categories: primary or essential hypertension and secondary hypertension. As evidenced in Table 1, 92-94% of all diagnosed hypertension is termed essential, i.e., the underlying mechanism is unknown. It is believed that a combination of genetic and environmental factors is responsible for the condition (Couldn't this be stated for all conditions?). Although behavior patterns and stress play an important part, hypertension is closely related to dietary factors.

Table 1. Causes of Hypertension

Essential Hypertension	92-94%
Renal Hypertension:	
Parenchymal	2-3
Renovascular	1-2
Endocrine Hypertension:	
Primary Aldosteronism	0.3
Cushing's Syndrome	<0.1
Pheochromocytoma	<0.1
Oral Contraceptive induced	2-4
Miscellaneous	0.2

Hypertension is another of the many diseases or syndromes associated with the Western diet, and is found almost entirely in developed countries. People living in remote areas of China, the Solomon Islands, New Guinea, Panama, Brazil, and Africa show virtually no evidence of essential hypertension, nor do they experience a rise in blood pressure with advancing age.[1,2] Furthermore, when racially identical members of these societies migrate to less remote areas and adopt a more "civilized" diet the incidence of hypertension increases dramatically.[1,2]

The prevalence of hypertension (BP >160/95 mm HG) in the U.S. is estimated at 20% in the adult white population and 30% in black adults. These values are nearly doubled if the reading of 140/90 mm Hg is considered the upper limit of normal.

Since hypertension is associated with an increase in cardiovascular morbidity and mortality, monitoring blood pressure offers an invaluable noninvasive diagnostic and prognostic aid. Table 2 indicates some factors associated with an adverse prognosis in hypertension. Although clinicians are primarily concerned with diastolic pressure, systolic pressure is also an important factor. Males with a normal diastolic pressure (<82 mm Hg) but elevated systolic pressure (>158 mm Hg) have a 2½ fold increase in their cardiovascular mortality rates when compared .with to normotensives with normal systolic pressures (<130 mm Hg).

Table 2. Factors Indicating an Adverse Prognosis

Black racial background
Youth
Male
Persistent diastolic pressure >115 mm Hg
Smoking
Diabetes mellitus
Hypercholesterolemia
Obesity
Evidence of end-organ damage:
Cardiac:
Cardiac enlargement
ECG indications of ischemia or left Ventricular strain
Myocardial infarction
Congestive heart failure
Ophthalmological:
Retinal exudates and hemorrhages
Papilledema
Renal: Impaired renal function
Nervous system: Cerebrovascular accident

THERAPEUTIC CONSIDERATIONS

Many dietary factors have been shown to correlate with blood pressure: sodium to potassium ratio, percentage of polyunsaturated fatty acids, fiber and magnesium content, and levels of simple carbohydrates, total fats, and cholesterol.

Diet ★

Sodium and Potassium: The role of a high sodium-low potassium intake in the pathogenesis

of essential hypertension has been considered extensively and conclusively.[1,2,39] Excessive consumption of dietary sodium chloride, coupled with diminished dietary potassium, induces an increase in extracellular fluid volume and an impairment of blood pressure regulating mechanisms. This results in hypertension in susceptible individuals.

Evolution has provided powerful mechanisms for conserving sodium and eliminating potassium, but there is no corresponding efficient mechanism for conserving potassium or eliminating excess sodium. Of the many feed-back loops regulating blood pressure, at least four are influenced beneficially by sodium restriction and high potassium intake: (1) the renin-angiotensin system, (2) the aldosterone system, (3) the sympathetic nervous system, and (4) the baro-receptor reflex.[9]

A high potassium-low sodium diet reduces the rise in blood pressure during mental stress, reduces the pressor effect of exogenous noradrenalin, and reduces the extracellular fluid volume, thus allowing the normal feedback mechanisms to function more effectively.[9] Sodium restriction alone does not improve baroreceptor function, it must be accompanied by a high potassium intake.[9] This combined approach also improves patient compliance, since it includes many foods that do not warrant salting. (See appendix A:Sodium Potassium Content of Foods for a list of foods with a favorable sodium to potassium ratio).

In general, hypertensives consume higher levels of salt than normotensives. This results in an elevated salt taste threshold (a positive feedback cycle) which returns to normal after long-term sodium restriction.[3] As public consciousness of the harmful effects of excess sodium has risen, consumer purchases of table salt have decreased.[1] Unfortunately, the salt content of processed and prepared foods has also risen.[1] It is therefore important to properly educate the patient about the "hidden salt" in prepared food and condiments.

Substituting potassium chloride for sodium chloride may have therapeutic effects. However, many of the "salt substitutes" still contain up to 50% sodium chloride; and there is experimental evidence suggesting that chloride consumed concomitantly with sodium is the necessary factor in salt sensitive individuals' hypertensive response.[14] When compared with non-vegetarians, vegetarians generally have lower blood pressure levels and a lower incidence of hypertension and other cardiovascular diseases. Dietary levels of sodium do not differ significantly between these two groups. However, a typical vegetarian's diet contains more potassium,[4] complex carbohydrates, polyunsaturated fat, fiber, calcium, magnesium, vitamin C, and vitamin A.[40]

Fantus Test: This simple office procedure is useful for estimating daily dietary intake of sodium chloride, and can be used to monitor patients' efforts to control salt intake. See Chapter II:Fantus Test for a full discussion of its application.

Fiber: The lack of dietary fiber, as mentioned in other chapters, is a common underlying factor in many diseases of "Western civilization". The high-fiber diet has been shown to be effective in preventing many forms of cardiovascular disease. As even mild hypertension is associated with an increased risk of cardiovascular disease, the therapeutic regime outlined for the prevention of atherosclerosis is indicated in treating hypertension.

Essential Fatty Acids: Increasing dietary linoleic acid has a profound hypotensive action in man.[7,8] This is due to normalization of the E series prostaglandins which are known to be decreased in hypertensive patients.[7,8] This simple dietary effect is prevented by aspirin and other cyclo-oxygenase inhibitors, implying that use of these types of agents is contraindicated in hypertensive individuals.[8]

Sucrose: Sucrose elevates blood pressure. Mechanisms which have been proposed to explain this include: (1) increased sodium retention, (2) increased aldosterone secretion, (3) elevated insulin levels, and (4) increased catecholamine secretion.[13] The most plausible of these appears to involve increased catecholamine production resulting in increased sympathetic tone and increased sodium retention.

Calcium and Magnesium: Epidemiological data reveals that hypertensives consume less daily calcium than normotensives and may benefit from calcium supplementation.[11] Calcium supplementation also reduces blood pressure in young normotensives.[10] In a double blind study, 1,000 mg/d has been shown to lower blood pressure by 7 mm Hg in hypertensives.[45] This appears to be somewhat of a contradic-

tion, since it is well known that calcium channel blockers decrease intracellular calcium levels and are hypotensive agents. However, *in vitro* studies indicate that calcium itself is a specific inhibitor of calcium channels.[15] It is possible that this effect occurs *in vivo* as well.

Magnesium may be a more important factor in lowering blood pressure. It is well known that magnesium sulphate is effective in the treatment of eclampsia and that, as a divalent cation, it competes with and antagonizes calcium. Magnesium is regarded as "Nature's physiologic calcium channel blocker."[42] It was first recommended as a therapy for malignant hypertension as early as 1925.[43]

An intracellular deficiency of free magnesium is a major etiological factor in hypertension, as its levels are consistently low in hypertensives as compared with normotensives, and they show an inverse correlation with blood pressure.[43] In one double-blind clinical study, magnesium supplementation lowered blood pressure by 12/8 mm Hg in 19 of 20 subjects in the experimental group, compared to 0/4 in the placebo group.[44]

Ascorbic Acid: There is an inverse relationship between serum vitamin C levels and blood pressure in hypertensive men.[41] Whether this is due to better dietary habits or a hypotensive effect of vitamin C has yet to be determined.

Lifestyle and Environmental Factors

Caffeine: The effects of long-term caffeine consumption on blood pressure have not yet been unequivocally determined.[31] Short-term studies consistently show elevation in blood pressure in both normotensive and hypertensive individuals which usually normalize after a few days. One large study (6,321 adults) demonstrated a small but statistically significant elevation in blood pressure (2.5/0.6) when comparing those who drank five or more cups a day to non-coffee drinkers.[49]

Alcohol: Even moderate amounts of alcohol produce acute hypertension in some patients via increased catecholamine secretion.[37,47] Chronic ingestion is one of the strongest predictors (sodium consumption being the other) of blood pressure.[37,38]

Smoking: That cigarette smoking is a contributing factor to hypertension is well known. It is not as well known that smokeless tobacco, i.e., snuff, chewing tobacco, and plug, also induces hypertension via its nicotine and sodium content.[32,48] Smoking is also positively associated with increased sugar, alcohol and caffeine consumption.[33] The pressor response to nicotine is due to its adrenal stimulation, which results in increased catecholamine secretion.[34] Furthermore, cigarette smokers are known to have higher concentrations of lead and cadmium and lower concentrations of ascorbic acid than nonsmokers.[35]

Weight and Hypertension: Epidemiological and clinical studies have repeatedly demonstrated that obesity is a major factor in hypertension.[18] Possible mechanisms include: (1) elevated cardiac output, (2) increased body sodium due to hyperinsulinemia or abnormal aldosterone/renin relationships, and (3) neuroendocrine abnormalities due to increased noradrenergic activity or opiate suppression. Weight reduction reduces blood pressure in normotensive, hypotensive and hypertensive individuals. Weight reduction should be a primary therapeutic goal for decreasing hypertension in obese patients, and may contribute to the management of moderately overweight hypertensives.

Heavy Metals: Chronic exposure to lead from environmental sources, including drinking water, is associated with increased cardiovascular mortality. Elevated blood lead levels have been found in a significant number of male hypertensives.[12,46] Areas with a soft water supply have an increased plumbosolvency due to the acidity of the water, and people living in these areas may be predisposed to hypertension. It should be noted that soft water is also, of course, low in calcium and magnesium.[12]

Cadmium has also been shown to induce hypertension, with untreated hypertensives showing blood cadmium levels three to four times those in matched normotensives.[16] Zinc has been shown to effectively reverse cadmium induced experimental hypertension in rats.[17] Zinc may also be indicated as a supplement in essential hypertension due to its inhibition of calcium activated calmodulin[22].

Stress Reduction Techniques: Relaxation techniques such as biofeedback, autogenics, transcendental meditation, yoga, progressive muscle relaxation, and hypnosis have been shown to have some value in lowering blood pressure.[20]

Exercise: Exercise is strongly indicated since it reduces both stress and blood pressure.[31] The exercise program should, of course, be carefully designed, taking into consideration the patient's needs and cardiovascular condition.

Botanical Medicines

An extensive review article by Petkov[22] is the major source of the following information concerning the hypotensive and coronary-dilating effect of medicinal plants which have been used historically as anti-hypertensive agents. He studied 80 plants belonging to 31 families used in various types of extracts (a total of 235 different extracts were investigated). Considerable attention was given to isolating the main active constituent of each herb, but as Petkov states, "The healing effect is produced not only by one or another of its components, but by the whole complex of biologically active substances contained in the plant." Following is a brief discussion of some major anti-hypertensive botanicals and an abbreviated list of other herbs with confirmed hypotensive action. Interested readers are encouraged to study Petkov's admirable review.

Allium Sativa: Garlic has been used by all peoples of the world as a valuable medicinal agent for a wide variety of illnesses. Although most recent research has focused on its hypolipidemic effects,[23] garlic has been shown to have hypotensive qualities.[22,24] In humans, garlic has been shown to decrease the systolic pressure by 20-30 mm Hg and the diastolic by 10-20 mm Hg.[22] Other members of the allium family have hypotensive effects, with aged extracts of *Allium ursinum* being the most potent.[22] The pharmaceutical mechanism of garlic's hypotensive effect is related to its cholinomimetic and hypolipidemic properties.[22]

Viscum Album: Misletoe contains many constituents with strong biological activity (viscotoxin, viscerin, alpha and beta viscol, oleanolic and ursolic acid, choline, tyramine, and quebrachine, to name but a few). The hypotensive action of misletoe is due primarily to its inhibitory action on the vasomotor center in the medulla oblongata, although it does possess cholinomimetic activity.[22]

Olea Europaea: Olive leaves contain oleuropein, an iridoid, that exerts a complex pharmacological action (both central and peripheral) to reduce hypertension, dilate coronary vessels, and act as an anti-arrhythmic agent.[22]

Valerian Officinalis: Like olive, valarian contains iridoids (valepotriates) that have coronary-dilating and anti-arrhythmic effects. Valerian is a useful agent in relieving neurotic states and producing sedation and therefore is useful in stress induced hypertension.[22]

Crataegus Oxycanthia: Hawthorne berry constituents include flavonoids, hyperoside, hyperine, ursolic and oleinic acids, chlorogenic, crategolic, acantholic and caffeic acids, choline, beta-sitosterol, saponins and volatile oils. Various flavonoids are considered the active constituents; and the flavonoid product, Crataemon, has been used as a cardiovascular agent in Europe for many years. Its healing properties are attributed to: (1) improvement of coronary blood supply by dilation of the coronary vessels, (2) improvement of metabolic processes within the myocardium resulting in improvement in functional heart activity, and (3) elimination of some forms of rhythm disturbances.[22] Hawthorne preparations are considered ideal phytotherapeutic preparations due to their absence of harmful side effects.[22]

Various dihydropyranocoumarins and dihydrofuranocoumarins isolated from Umbelliferous plants are known to exhibit spasmolitic and coronary vasodilatory activity.[25] Species of interest include *Peucedanum arenarium*, *Rutaceae*, *Pastinacea sativa*, *Leptotania dissectum* and *Amni visnaga*. The pharmacological effects are related to cAMP-phosphodiesterase-inhibitory and calcium channel-blocking properties.[25] The sum of furanocoumarins (peucordin) from *Peucedanum arenarium* produces a coronary dilatory effect analogous to Crataemon and a much greater effect than oleuropein and valepotriate.[22] Umbelliferous plants also demonstrate hypotensive effects and many antihypertensive drug preparations in Europe are derived from these plants.[22]

Vinca Minor: Periwinkle belongs to the family *Apocynaceae*, which contains many valuable alkaloid-containing genera such as *Aspidosperma*, *Alsotonia*, *Picralima*, and *Rauwolfia*. Vincamin, an indole derivative constituent of *Vinca minor*, has coronary dilatory and hypotensive action. Central ganglion blocking and

EXHIBIT 2
DATE 2-26-91
SB 166

peripheral vascular mechanisms underlie its hypotensive action.[22]

Rauwolfia Serpentina: Although used primarily as a universal sedative, *Rauwolfia* has been the source of over 20 alkaloids with a wide spectrum of pharmacologic actions. The basic alkaloid, reserpine, depletes catecholamine and serotonin stores in many organs, including the brain, heart, blood vessels, and adrenal medulla. Within one hour after ingestion, catecholamines are decreased, with maximal depletion at 24 hours. Alkaloids are not the only hypotensive constituents in *Rauwolfia* since alkaloid-free extracts exhibit hypotensive action. The use of the whole plant is advocated as a possible protective measure against known reserpine side effects (primarily depression). The use of *Rauwolfia* is indicated only in severe hypertension and should not be used in patients with a history of depression.[22]

Veratrum Viride: *Hellebore*, like *Rauwolfia*, should only be used in extreme cases. The mode of action of veratrum alkaloids is via vagal stimulation, resulting in a narrow therapeutic range. It is difficult to use, with side effects including respiratory depression, nausea, and vomiting.[22]

Other herbs with confirmed hypotensive action include: *Symphytum officinale* (comfrey root), *Geranium macrorrhizum*, *Fumaria officinalis*, *Astragalus species*, *Dioscorea caucasia*, *Verbascum* (mullein), *Scutellarea laterifolia* (skull cap), *Magnolia grandifloria*,[22] *Gardenia florida*,[29] *Terminalia arjuna*,[26] and *Tetrapleura tetraptera*.[27]

Miscellaneous Factors

Food allergies have been shown to cause hypertension.[19]

Hypothyroidism is often a cause of secondary hypertension and is easily controlled with thyroid replacement therapy.[21]

An **atrial protein** has been shown to be a potent renal vasodilator.[28] The consumption of bovine atrial extract or a meal of bovine atria may allow for absorption of segments of this peptide with biological activity.

Bovine **renal extract** has also been shown to possess antipressor effects, i.e., it appears to diminish renin's pressor effect in animals and hypertensive human subjects.[36]

THERAPEUTIC APPROACH

Effective control of this complex and multifactorial disease requires careful evaluation and management of the hypertensive patient. Although a "cookbook" approach can be taken, determination of each patient's specific causes and needs greatly improves the quality of care.

The first step is to establish that the patient's hypertension is, in fact, essential and not secondary to one of the diseases listed in Table 1. Next, determine (as illustrated in the diagnostic differentiation flowchart below) if any factor known to be associated with hypertension is present in the patient. Third, assist the patient in changing his/her diet and lifestyle to one which is more conducive to good cardiovascular health. And finally, if necessary, a botanical agent may be used to temporarily reduce the patient's blood pressure while the more long-term therapies take effect.

Therapeutic Differentiation:

Hair analysis-(high Pb or Cd)->
find & eliminate source, chelate (see IV:Environmental Toxins)

I use a MD research lab in Chicago DOCTORS DATA

Smoker -(+)-> assist in stopping (Avenna sativa - 3x/d)

Diabetes mellitus -(+)-> see VI:Diabetes Mellitus

Hypercholesterolemia -(+)-> see VI:Western Diet

Obese -(+)-> weight reduction (chapter VI:Obesity)

Salt intake -(high)->
salt restriction <3g/d & potassium supplement - 1g/d
(monitor with Fantus Test)

Dietary fiber -(low)-> fiber supplement 10g/d

Water supply -(soft)->
calcium - 800mg/d; magnesium - 800mg/d

Holmes Stress Test -(+)-> stress reduction

Food allergy -(+)-> see IV:Food Allergy

Diet: The diet should be formulated to ensure that a normal weight is established and maintained. Sugar (<50g/d) and salt intake (<2g/d) should be restricted, while the consumption of foods rich in potassium (>7g/d) (see Appendix A:Sodium and Potassium Content of Foods), calcium (>1g/d), magnesium (1g/d), and fiber (10g/d) should be encouraged. In addition, a low-total fat (with moderate levels of linoleic acid), vegetarian, or vegetarian-like diet can be recommended. Garlic and other members of the onion family should be freely consumed.

Supplements:

Potassium - as needed to total 7 g/d
Calcium - as needed to total 1.5 g/d
Magnesium - as needed to total 1g/d
Fiber - as needed to total 10g/d (oat bran preferred)
Garlic - 1 clove 3x/d (or the equivalent)

Exercise: 30 minutes 3x/wk (modify according to cardiovascular and musculoskeletal needs)

Psychological: Most patients will benefit to some degree from some type of stress reduction technique. The particular methodology utilized should depend on the patient's acceptance.

Botanical Medicines:

Equal parts of the fluid extracts of *Valerian*, *Viscum album*, and *Crataegus* - 20-40 drops 4-6 times a day until diastolic pressure is below 110 mm Hg.
Crataegus oxycanthia - ½ tsp 4x/d

REFERENCES

1. Meneely G and Battarbee H: High sodium-low potassium environment and hypertension. Am J Card 38:768-81, 1976
2. Freis E: Salt, volume and the prevention of hypertension. Circ 53:589-95, 1976
3. Bertino M, Beauchamp G, and Engelman K: Long-term reduction in dietary sodium alters the taste of salt. Am J Clin Nutr 36:1134-44, 1982
4. Armstrong B, Clarke H, Martin G, et al: Urinary sodium and blood pressure in vegetarians. Am J Clin Nutr 32:2472-6, 1979
5. Wright A, Burstyn P, and Gibney M: Dietary fibre and blood pressure. Br Med J 2:1541-3, 1979
6. Rouse O, Beilin L, Armstrong B, and Vandongen R: Blood pressure-lowering effect of a vegetarian diet: Controlled trial in normotensive subjects. Lancet 1:5-9, 1983
7. Rao R, Rao U, and Srikantia S: Effect of polyunsaturated vegetable oils on blood pressure in essential hypertension. Clin Exp Hypertension 3:27-38, 1981
8. Vergroesen A, Fleischman A, Comberg H, et al: The influence of increased dietary linoleate on essential hypertension in man. Acta Biol Med Germ Band 37:879-83, 1978
9. Skrabal F, Aubock J, and Hortnagl H: Low sodium/high potassium diet for prevention of hypertension: Probable mechanisms of action. Lancet ii:895-900, 1981
10. Belizan J, Villar J, Pineda O, et al: Reduction of blood pressure with calcium supplementation in young adults. JAMA 249:1161-5, 1983
11. McCarron D, Morris C, and Cole C: Dietary calcium in human hypertension. Science 217:267-9, 1982
12. Beattie A, Campbell B, Goldberg A, and Moore M: Blood-lead and hypertension. Lancet 2:1-3, 1976
13. Hodges R and Rebello T: Carbohydrates and blood pressure. Ann Int Med 98:838-41, 1983
14. Kotchen T, Luke R, Ott C, et al: Effect of chloride on renin and blood pressure responses to sodium chloride. Ann Int Med 98:817-22, 1983
15. Hurwitz L, McGuffee L, Smith P, and Litle S: Specific inhibition of calcium channels by calcium ions in smooth muscle. J Pharm Exp Ther 220:382-8, 1982
16. Glauser S, Bello C, and Gauser E: Blood-cadmium levels in normotensive and untreated hypertensive humans. Lancet i:717-8, 1976
17. Shroeder H and Buchman J: Cadmium hypertension. Arch Environ H 14:693-7, 1967
18. Havlik R, Hubert H, Fabsitz R, and Feinleib M: Weight and hypertension. Ann Int Med 98:855-9, 1983
19. Price A: The role of food allergy in hypertension: An experimental study. Rev Gast 5:233-45, 1943
20. Ford M: Biofeedback treatment for headaches, Raynaud's disease, essential hypertension, and irritable bowel syndrome: A review of the long term follow-up literature. Biof Self-Reg 7:521-35, 1982
21. Saito I, Ito K, and Saruta T: Hypothyroidism as a cause of hypertension. Hypertension 5:112-5, 1983
22. Petkov V: Plants with hypotensive, antiatheromatous and coronary dilating action. A J Chinese Med 7:197-236, 1979
23. Shoentan A, Augusti K, and Joseph P: Hypolipidemic effects of garlic oil in rats fed ethanol and a high lipid diet. Experientia 40:261-3, 1984
24. Foushee D, Ruffin J, and Banerjee U: Garlic as a natural agent for the treatment of hypertension: A preliminary report. Cytobios 34:145-52, 1982
25. Thastrup O, Fjalland B, and Lemmich J: Coronary vasodilatory, spasmolytic and cAMP-phosphodiesterase inhibitory properties of dihydropyranocoumarins and dihydrofuranocoumarins. Acta Pharm Tox 52:246-53, 1983
26. Singh N, Kapur K, Singh S, et al: Mechanism of cardiovascular action of terminalia arjuna. J Med Plant Res 45:102-4, 1982
27. Ojewole J and Adensina S: Cardiovascular and neuromuscular actions of scopoletin from fruit of tetrapleura tetraptera. J Med Plant Res 49:99-102, 1983
28. Oshima T, Currie M, Geller D, and Needleman P: An atrial peptide is a potent renal vasodilator substance. Circ Res 54:612-6, 1984
29. Chow H, Wang J, and Cheng K: Cardiovascular effects of Gardenia Florida L (Gardeniae Fructus) extract. A J Chinese Med 4:47-51, 1976
30. Brewer G: Molecular mechanisms of zinc action on cells. Agents Actions suppl 8:37-49, 1980
31. Robertson D, Hollister A, Kincaid D, et al: Caffeine and hypertension. A J Med 77:54-60, 1984
32. Shcroeder KL and Chen MS: Smokeless tobacco and blood pressure. NEJM 312:919, 1985
33. Bennett A, Doll R, and Howell R: Sugar consumption and cigarette smoking. Lancet i:1011-4, 1970
34. Kershbaum A, Pappajohn D, Bellet S, et al: Effect of smoking and nicotine on adrenocortical secretion. JAMA 203:113-6, 1968
35. Pelletier O: Smoking and vitamin C levels in humans. Am J Clin Nutr 21:1254-8, 1968

36. Grollman A, Williams JR, and Harrison TR: Reduction of elevated blood pressure by administration of renal extracts. JAMA 115:1169-76, 1940
37. Formann S, Hashell W, Vranizan K, et al: The association of blood pressure and dietary alcohol: Difference by age, sex and estrogen use. Am J Epid 118:497-507, 1983
38. Gruchow HW, Sobocinski MS, and Barboriak JJ: Alcohol, nutrient intake, and hypertension in US adults. JAMA 253:1567-70, 1985
39. Khaw KT and Barrett-Connor: Dietary potassium and blood pressure in a population. Am J Clin Nutr. 39:963-8. 1984
40. Rouse IL, Beilin LJ, Mahoney DP, et al: Vegetarian diet and blood pressure. Lancet ii:742-3, 1983
41. Yoshioka M, Matsushita T, and Chuman Y: Inverse association of serum ascorbic acid level and blood pressure or rate of hypertension in male adults aged 30-39 years. Int J Vit Nutr Res 54:343-7, 1984
42. Iseri L and French J: Magnesium: Nature's physiologic calcium blocker. AM Heart J 108:188-93, 1984
43. Resnick LM, Gupta RK, and Laragh JH: Intracellular free magnesium in erythrocytes of essential hypertension: Relationship to blood pressure and serum divalent cations. Proc Natl Acad Sci USA 81:6511-5, 1984
44. Dyckner T and Wester O: Effect of magnesium on blood pressure. Br Med J 286:1847-9, 1983
45. Henry HJ, McCarron DA, Morris CD, and Parrott-Garcia M: Increasing calcium intake lowers blood pressure: The literature reviewed. J Am Diet Assoc 85:182-5, 1985
46. Pierkle JL, Schwartz J, Landis JR, and Harlan WR: The relationship between blood lead levels and blood pressure and its cardiovascular risk implications. Am J Epid 121:246-58, 1985
47. Potter JF and Beevers DG: Pressor effect of alcohol in hypertension. Lancet i:119-21, 1984
48. Hampson NB: Smokeless is not saltless. NEJM 312:919-20, 1985
49. Lang T, Degoulet P, Aime F: et al: Relationship between coffee drinking and blood pressure: Analysis of 6,321 subjects in the Paris region. Am J Card 52:1238-42, 1983

3
2-6-91
SB Cole

Is Naturopathic Medicine Scientific?

by Paul Bergner

Critics of naturopathic medicine often contend that it is not scientific, is untested and unproven, is ideologically opposed to science, and is therefore not reliable. Where expert and objective bodies of scientists, educators, or regulators have examined this question, however, they have concluded that naturopathic medicine, as practiced by the licensable professionals in the U.S., in fact has a scientific basis, albeit different from that of orthodox medicine.

In 1977, the government of the Netherlands appointed a committee of scientists and physicians to study the question of regulation of alternative medicine, including naturopathic medicine. After four years of evaluating the scientific basis of the alternative disciplines, the committee concluded:

"The commission believes that the division between alternative and orthodox medicine is not of a scientific nature, but owes its origin and its continued existence to both politico-social and scientific factors."

The report continues: "Alternative medicine (specifically including naturopathic medicine and homeopathy) is such an important factor in health care in the Netherlands, both from a qualitative and quantitative point of view, that government policy cannot disregard it." The commission recommended that information on alternative therapies be taught in conventional medical schools, that the government support alternative teaching institutions financially and fund research into alternative therapies, and that insurance reimbursement be mandatory for naturopathic and homeopathic medicine. The commission also drew a clear distinction between the practice of alternative systems of medicine and charlatanry.

In studying the scientific basis of naturopathic medical education, the Oregon Office of Educational Policy and Planning (OEPP), which is responsible for regulating academic degrees in Oregon, tested the quality of the board examinations in that state. In a letter to the National Council Against Health Fraud, OEPP Administrator David Young describes the evaluation thus:

> *...we had 17 sections of the state (naturopathic medical board) examinations subjected to a blind review by 17 specialists: senior clinical and basic science faculty at a conventional school of medicine. Their evaluations showed that it would not be possible for an individual to pass all of the tests—which is necessary for licensure—without having a comprehensive foundation in the biological and biomedical sciences...In other words...[a naturopathic medical college] has no choice but to prepare NDs with a biological and biomedical education of the same breadth and depth that prepares an MD to be a primary care physician. Naturopathic medicine, under state regulation in Oregon, diverges from other forms of primary medical care at that point where professionals in common possession of scientific facts conscientiously disagree on how best to use their shared knowledge in treating patients.*

The regional accrediting body in the Pacific Northwest reached a similar conclusion after evaluating the naturopathic program at Bastyr College in Seattle in 1987. Their evaluation committee report of May 13-14, 1987 states: "Bastyr College's philosophic adherence to building its curriculum on a solid foundation of science and scientific understanding is commendable and lends additional credibility not only to the institution but also the profession."

Researchers who have reviewed the scientific basis of naturopathic medicine have had no problem in finding peer reviewed journal articles that support naturopathic methods. One text which surveyed the scientific basis for about 100 naturopathic procedures and treatments found more than 4,000 scientific references to support those methods.

A study done at the University of Minnesota Medical School, and funded in part by the Minnesota Medical Foundation, did a brief survey of the scientific background to naturopathic medicine in the U.S. and produced more than 148 scientific references supporting naturopathic practice. The report stated that, although definitive clinical trials were generally lacking for naturopathic methods, suggestive scientific studies and scientific rationales were available for many naturopathic practices. The report suggested further study and concluded that the naturopathic approach has value for certain types of patients.

In each of the three main areas of medicine — diagnosis, prevention, and treatment — naturopathic medicine has a scientific foundation.

Naturopathic physicians use the same methods of clinical, physical and laboratory diagnosis as conventional general practitioners, as shown by the Oregon board examinations mentioned above. These may be supplemented by less quantifiable naturopathic methods, which attempt to assess such nebulous but highly important areas such as the patient's vitality, the underlying susceptibility to disease, or subclinical weaknesses in systems. In the area of prevention, naturopathic physicians utilize the same body of knowledge as an MD in judging the course a disease may be expected to take. They are trained to give immunizations when allowed by law. Like any general practitioner, they are trained to make referrals to MD specialists or other health care professionals when appropriate. Most important, naturopathic physicians are highly trained in clinical nutrition and lifestyle modification for the prevention of disease. In these areas, which are thoroughly supported by science, naturopathic physicians are better trained than MD general practitioners (the majority of whom have not taken a single course in nutrition), family practice specialists, or registered dietitians. Naturopathic physicians are the only primary care medical professionals in the U.S. meeting the recommendations of the Surgeon General for education in nutrition and dietary counseling.

Certain naturopathic treatment methods are well supported by conventional science. The most important of these is clinical nutrition. The 1988 Surgeon General's report on nutrition and health specifically called for improved education of health care

"Naturopathic physicians are the only primary care medical professionals in the U.S. meeting the recommendations of the Surgeon General for education in nutrition and dietary counseling."

professionals in therapeutic nutrition. Such treatments are supported by a large body of scientific knowledge, reflected in a number of scientific journals devoted specifically to that subject. Other naturopathic therapeutic methods, such as exercise therapy, physiotherapy, and manipulation for musculoskeletal problems are also well supported by science.

Although some parts of naturopathic medicine are the subject of scientific controversy and investigation, those therapeutic practices which have been retained in the evolution of naturopathic medicine in the U.S. in this century have some scientific basis. Homeopathy, for instance, has at least twenty controlled studies, including several double-blind, placebo-controlled clinical trials, showing the effectiveness of microdoses of substances. Oriental medicine also has extensive descriptive and uncontrolled trials which suggest effectiveness. Most such practices are in fact accepted in other countries, such as Germany, France, and England, and are practiced there by conventional scientifically-trained MDs.

Note that many conventional medical procedures routinely administered throughout the U.S. likewise lack definitive proof of clinical effectiveness. Some have actually been proven to be unsafe or to lack effect, but remain in use. The coronary bypass operation, for instance, has been scientifically proven to be neither safe nor efficacious for about half the people it is performed on, but the inappropriate use continues unabated. The Congressional Office of Technology Assessment cites research showing that only 10-20% of medical procedures (as opposed to drugs) have been proven safe and efficacious by controlled studies. There is in fact no requirement that any surgical procedure be proven safe or efficacious before it is performed in the U.S.

Naturopathic methods will benefit from more formal study for many of the same reasons that the 80-90 percent of conventional procedures that have not been formally studied would benefit. Unfortunatley, only a small percentage of medical methods can be evaluated in a double-blind method. The value of bedrest, the effects of chemotherapy, splinting methods for broken bones, the surgical removal on an organ, or methods of suggestive or mental healing cannot be evaluated with the double-blind method. Medical traditions and bodies of clinical knowledge accumulated over centuries may not require extensive testing. In many cases the tools of one scientific paradigm are inappropriate to measure the outcomes of another. The scientific tools of analytical biochemistry are inappropriate to measure the outcomes of Jungian analysis; experimental clinical trials are inappropriate for the science of ecology. Naturopathic healing sciences contain, in addition to some material overlapping with conventional medicine, elements resembling those of ecology and Jungian psychology which require a different kind of tool to measure outcomes.

Political, sociological and economic reasons also effect the level of research done into naturopathic methods. Priorities for research, whether private, corporate, or public, are usually determined by members of the conventional medical profession who are unfamiliar with and uninterested in naturopathic methods. Corporations are unlikely to fund research because naturopathic methods are generally not patentable, and offer no chance to recoup research and development costs. Furthermore, most of the standards of modern medical science have grown up around the need to evaluate NEW methods, and those with a high inherent potential to do harm. Proving the safety and efficacy of an entirely new drug or procedure takes a much higher priority in the scientific community than evaluating well-established traditional methods without the potential for life-threatening side effects. Only relatively recently, with rising incidence of chronic degenerative disease and spiraling medical costs, have university and government researchers begun to assess traditional naturopathic methods such as diet and lifestyle modification. Where such research exists, the clear trend is to confirm the validity of naturopathic practice.

Above all, naturopathic medicine is not "anti-science" as some critics would claim. The modern profession contains in microcosm most of the elements of the scientific medical establishment. Controlled studies are done at the naturopathic colleges; students are taught how to read and interpret the peer reviewed scientific literature; scientific materials are taught in the curriculum; some naturopathic physicians devote themselves primarily to research; board examinations focus on scientific issues of protecting the public from harm; most doctors are subjected to peer review; and a scientific journal has been developed. These activities are not done on the scale of the research into conventional medicine, mainly because of the relative small size of the naturopathic profession, and problems of funding. The naturopathic involvement with science differs from that of conventional medicine in scale and emphasis, not in ideological opposition to science itself. ◆

References available on request.

Bergner Communications
PO 33080 Portland, OR 97233

Naturopathic and Major Medical Schools

Comparative Curricula

EXHIBIT 3
DATE 2-16-91
SB 166

	National College of Naturopathic Medicine	Bastyr College (Naturopathic)	Johns Hopkins	Mayo	Yale	Stanford
Basic and Clinical Sciences including: Anatomy, Cell Biology, Physiology, Pathology, Neurosciences Clinical/ Physical Diagnosis, Histology, Genetics, Biochemistry, Pharmacology, Lab Diagnosis, Pharmacognosy, Biostatistics, Epidemiology, Public Health, History, Philosophy, Ethics, Research and other coursework.	**2070**	**1891**	1794	1640	1457	1401
Clerkships* and Allopathic Therapeutics including lecture and clinical instruction in Dermatology, Family Medicine, Psychiatry, Medicine, Radiology, Pediatrics, Obstetrics, Gynecology, Neurology, Surgery**, Opthamology, and clinical electives.	**1974**	**1959**	3260	3080	2040 (+ thesis)	3840
Naturopathic Therapeutics including Botanical Medicine, Homeopathy, Oriental Medicine, Hydrotherapy, Naturopathic Manipulative Therapy.	**492**	**335**	0	0	0	0
Therapeutic Nutrition	**144**	**138**	17	elective	elective	elective
Counseling	**144**	**158**	0	0	0 (included under psychiatry above)	0
TOTALS	**4824**	**4481**	5071	4720	3497 (+ thesis)	5241

*Clerkships are estimated to be 40 hours per week of mixed lecture and clinical training.
**Naturopathic physicians study minor surgery only.

Sources: 1988 *Curriculum Directory* of the Association of American Medical Colleges; 1988 catalogues of National College of Naturopathic Medicine and Bastyr College

For Information or Referrals:
American Association of Naturopathic Physicians
P.O. Box 20386
Seattle, WA 98102
(206) 323-7610

December 17, 1990

MASTER
INSURANCE
TRUST

Administered by
Master
Administrative
Service, Inc.

Nancy Aagenes, N.D.
1820 Harrison
Butte, MT 59701

Re: Medical-Professional Liability Insurance--*Naturopathic Physicians*

Dear Dr. Aagenes,

As we discussed this morning over the phone, we are not able to provide coverage to naturopathic physicians in the state of Montana at this time because the state of Montana does not yet license naturopathic physicians. However, we have been placing this coverage, with very low loss experience I might add, for the past five years in the eight states where naturopathic medicine is currently licensed.

Because our experience has shown naturopathic medicine to be a preferred liability risk, we are interested in accommodating as many qualified naturopathic physicians as possible. (We recently consulted with a member of the NPLEX board in an effort to analyze whether there would indeed be a possibility of offering coverage to those naturopathic physicians practicing in states where they are not yet able to be licensed. Our conclusion, however, was that we will need to wait until your state grants you licensure before you are insurable.)

Let me reiterate how impressed we have been with our expereince with naturopathic medicine. Our parent organization is a specialty brokerage firm emphasizing group coverages for physicians & surgeons, clinics, and hospitals in all 50 states. Our clients total over 60,000 physicians. This experience enables us to judge our naturopathic "block of business" as a clearly superior liability risk. From a lay perspective, we attribute this largely to the non-invasiveness of naturopathic medicine, and the generally high quality physician/patient relationships that this type of medicine dictates.

Should you have any further questions, please do not hesitate to call. We also appreciate your efforts to keep us informed of your state's position toward naturopathic licensure.

Sincerely,

Jeffrey D. Brunken
Program Manager

JDB:jj

P.O. Box 23430
San Jose, CA 95153-23
408-365-3799

Malpractice & the costs of defensive medicine. Malpractice Facts

• Malpractice costs the U.S. $28 billion a year in premiums and the costs of defensive medicine. This adds up to about $400,000 per physician (MD) in indirect costs.

• About one MD in five is sued for malpractice each year.

• Malpractice suits against naturopathic physicians are extremely rare. Master Insurance Trust reports that in a four-year history insuring about 50 licensed naturopathic physicians, only four incidents were reported, and nothing was paid in judgments or settlements.

• The low incidence of lawsuits creates a climate in which naturopathic physicians do not have to practice expensive defensive medicine.

Sources:
1. Joseph Califano. "Billions Blown on Health."
2. *New York Times*. April 12, 1989
3. The American Medical Association
4. The AANP.

5. Naturopathic physicians do not have to pass on high malpractice insurance charges to their patients. (see sidebar: "Malpractice Rates for Various Physicians.")

6. Naturopathic medicine does not lead to a high rate of iatrogenic (doctor-induced) disease. The costs of iatrogenic disease are significant. As many as a third of those admitted to the hospital will have an iatrogenic disease while there, resulting in a longer stay. About 2% of drug prescriptions result in adverse drug reaction requiring hospitalization. These reactions account for from 4-10% of all hospital admissions. One source suggests that adverse drug reactions alone add $5 billion annually to health costs in the U.S. Assuming that iatrogenic disease rates are directly proportional to malpractice rates, it is safe to say that naturopathic methods result in a low incidence of expensive iatrogenic disease.

7. Naturopathic medicine reduces the incidence of related and secondary illnesses by removing the cause of a disease. A child with otitis media, for instance, may have the ear problem treated symptomatically with antibiotics, but continue to get respiratory and other infections. Removing an offending food, or otherwise strengthening lowered resistance, can resolve the otitis media as well as the recurrent infections. Or an adult suffering from hypertension due to a sedentary lifestyle and poor diet may also have chronic constipation, hemorrhoids, and insomnia, all of which would be treated separately, with separate charges, by conventional medicine. But naturopathic treatments for hypertension methods can at the same time improve all the other effects of the sedentary lifestyle, for the charge of a single treatment.

8. When treating acute illness, naturopathic physicians also reduce the incidence and cost of long term chronic illness. Some naturopathic methods of treating acute disease are themselves preventive for long term disease. Strengthening of general resistance through diet and lifestyle modifications, counseling, and other naturopathic therapies can resolve an immediate problem while at the same time preventing future problems from arising.

9. Naturopathic physicians reduce the incidence of expensive chronic disease by treating general poor health even before a specific disease develops. One study shows that more than half of patients visiting an MD do not receive a diagnosis, yet feel sick. Without a diagnosis, the MD cannot give treatments, until the patient's health declines further and some diagnosable disease develops. Many unnecessary tests are performed on such patients, contributing nothing to their health. Naturopathic physicians, on the other hand, can prescribe general health building treatments and lifestyle modifications for such patients, reducing the incidence and costs of future chronic disease.

10. Naturopathic medicine is by nature time-intensive rather than procedure-intensive. The medical reimbursement structure in the U.S. pays the most for procedures and the least for patient interview,, examination, history-taking, counseling, and education. Naturopathic physicians spend from two to five times more time with a patient than does an MD, time spent in examination and counseling that can reduce long term illness and get at the real cause of disease. (see above sidebar: "More for your Money.") ◆

Annual Malpractice Insurance Rates

Md General Practitioner	$ 7,000
Obstetrics/Gynecology	$23,000
Pediatrics	$ 4,800
Surgery	$18,000
Naturopathic Physician	$ 2,000

Note: Costs can vary widely from region to region
Sources: The American Medical Association; the AANP

More For Your Money

Naturopathic physicians spend more time with their patients— time well spent to uncover the causes of illness, help modify lifestyle, and prevent expensive chronic disease.

Average Minutes Per Procedure

	Medical Doctor (Family Practice)	Naturopathic Physician
New Patient		
Intermediate	9	40
Comprehensive	39	80
Established Patient		
Limited	12	22
Intermediate	18	33
Extensive	25	47

Sources:
Journal of the American Medical Association (260:16.2411)
Insurance Committee: Washington Association of Naturopathic Physicians.

Toward Documenting the Cost-Effectiveness of Naturopathic Medicine

EXHIBIT 3
DATE 2-6-91
SB 666

by Paul Bergner

Editor's Note: For the past year, the Public Affairs Department of the AANP has been researching information on the cost-effectiveness of naturopathic medicine. We have compiled information on both costs and effectiveness and devised approaches to legislators and regulators, insurance companies, self-insuring corporations, the press and the public. We are now developing a series of information sheets and brochures which will help you, your patients and your state associations. Some will be available for the first time at the AANP Convention. With this issue, we have asked AANP consultant Paul Bergner, of Bergner Communications, to share some of this information with you. We invite your own insights and information to strengthen the case for cost savings and effective treatments of naturopathic medicine. If you have specific feedback, please contact Bergner Communications, PO Box 33080, Portland, OR 97233.

Ten Reasons Why Naturopathic Medicine Reduces Health Costs

1. Naturopathic physicians are trained and licensed to practice primary care medicine. Studies show that a primary care physician gatekeeper reduces the high costs of specialist medicine.

2. Naturopathic treatments are inherently less expensive than those likely to be recommended by a conventional physician, and many naturopathic treatments have no costs associated with them at all. This sentence is taken verbatim from the report of an insurance auditor for the State of Hawaii. The full report, which concludes that there is no evidence that naturopathic medicine increases health costs, is available from the AANP. The most common naturopathic treatments—clinical nutrition, lifestyle modification, homeopathy, botanical medicine, physiotherapy, and counseling—usually involve no more than the charge for a few office visits.

3. Naturopathic practice reduces the incidence of unnecessary surgical procedures. Naturopathic physicians support the legitimate use of surgery, but are unlikely to recommend it when it is not necessary. Government and industry cost-containment experts have isolated unnecessary medical procedures and tests as a major contributor to the unusually high cost of U.S. health care. Experts estimate that between 20% and 33% of surgical procedures performed in the U.S. are unnecessary or inappropriate. (See sidebar: "What the experts say about the incidence of expensive and unnecessary surgery in the U.S.") Naturopathic physicians are more likely than conventional doctors to explain non-surgical options to patients. When nutritional or other alternatives are available, naturopathic physicians are more likely to know about them than are conventional MDs, most of whom have never had a single course in therapeutic nutrition or behavioral counseling.

What some experts say about the incidence of expensive and unnecessary surgery in the U.S.

Government and industry cost-containment experts have isolated unnecessary medical procedures and tests as a major contributor to the costs of health care in the U.S.

Dr. Marsha Angell of the *New England Journal of Medicine*, for instance, states: "Much of medical care in this country is unnecessary, is of no demonstrated value to those who receive it, and some of it is harmful."

How much is "much" depends on who you ask. Joseph Califano Jr, former Secretary of Health, Education, and Welfare, who is now in charge of Chrysler corporation health benefits programs, suggests that at least 25% of surgical procedures are unnecessary, including "...half the coronary bypasses, most Caesarean sections, and a significant number of other procedures."Studies done for the insurance industry by the Santa Monica California based Rand corporation suggest that roughly one-third of the nation's health care dollars are being spent on ineffective or unproductive care that does not contribute to a patient's diagnosis or recovery.

These figures fit with the economic data; reducing medical procedures and tests by one-third would put our costs in line with those of other developed countries.

4. Naturopathic medicine reduces the incidence of unnecessary medical tests. Although fully trained in modern laboratory and other diagnosis, naturopathic physicians order fewer such tests than their conventional medical counterparts. Experts have estimated that about half the laboratory or other diagnostic tests ordered by MDs in the U.S. are inappropriate, and do not contribute to the diagnosis or treatment of the patient. The main reason for such tests is "defensive medicine," where a conventional doctor orders the test to protect against a possible lawsuit. This psychology is not a factor with naturopathic physicians, who are rarely sued. (see sidebar: "Malpractice and the costs of defensive medicine.)

4
2-6-91
SB 266

267 references.

American Journal of Med 12
Lancet 11
New England Journal of Med 13
Journal of American Med 9

Chapter 33

NUTRITION, HYPERTENSION AND KIDNEY DISEASES

Robert M. Kark
and
Joseph H. Oyama

The kidneys, particularly the proximal convolutions of the nephrons, are the guardians of the nutritional wealth of the body. Each day, for example, nearly 2 kg of ascorbic acid are filtered through the walls of the glomerular tufts into the lumen of the renal tubules and all but a few milligrams are returned to the blood stream. The excretion of ascorbic acid in the urine, like that of many other water-soluble nutrients, is said to be determined by its plasma level, the rate of glomerular filtration and the maximum rate of tubular reabsorption; of these functions, the latter is crucial in preventing urinary wastage of the vitamin.[1] The extraordinary reabsorptive capacity of the proximal convolutions of the tubules in both health and disease is one reason why measurement of the urinary output of the water-soluble vitamins is of little value in the diagnosis of the classic deficiency diseases. The efficiency of the proximal convolutions in defending the body against loss of such water-soluble substances as ascorbic acid, glucose, amino acids and other nutrients is more than matched by the lower reaches of the nephron which act to conserve water and electrolytes. Even in chronic renal disease or in diabetes insipidus, when large amounts of dilute urine are passed each day, there is little or no excessive loss of ascorbic acid, and clinical deficiencies of ascorbic acid, or of other water-soluble vitamins, must be extremely uncommon on the basis of renal wastage. Nevertheless, renal wastage of other nutrients does occur. Excessive urinary loss of water, electrolytes, calcium and phosphorus, as well as protein and amino acids, is present in many renal disorders.

Prevention and treatment of renal wastage of nutrients are one side of the coin the physician has to deal with; on the other side, he finds renal *retention* of nutrients and their toxic metabolic products. Elimination and control of bodily excesses of water, of water and sodium (edema), of potassium, phosphorus, chloride and protons, and of the nitrogenous- and sulfur-containing metabolites of protein are necessary functions of the kidney. In the face of altered function, dietary modification and medications are often necessary to maintain homeostatic balance. The widespread availability of dialysis devices for those with end-stage kidney failure imposes additional factors which can disturb the nutritional economy of the body.

STRUCTURE, FUNCTION AND METABOLIC ACTIVITIES OF THE KIDNEYS

The anatomy of the kidney is extraordinarily complex, particularly the intertwining of tubules and blood vessels. In 1843, Bowman clearly related filtration of plasma and secretion of urine to the intimate relationship of blood-filled glomeruli

limbs and early changes in the electrocardiogram). Exact diagnosis comes with measurement of serum potassium, but the degree of depletion is often difficult to assess and may require metabolism studies for exact knowledge.

For prevention and treatment, enteric-coated tablets of potassium chloride were commonly used. Because patients may get abdominal cramps from the hypertonic solution formed during fragmentation of the tablet in the gut or, as sometimes happens, because the tablets may cause dangerous bowel disease including bowel performance, we prefer a liquid formula.

BIBLIOGRAPHY

1. Selkurt: Am. J. Physiol., *142*, 182, 1944.
2. Heinemann and Lee: Am. J. Med., *61*, 681, 1976.
3. Lee, Vance and Cahill: Am. J. Physiol., *206*, 27, 1962.
4. Lassen, Munck and Thaysen: Acta Physiol. Scand., *51*, 37, 1961.
5. Follis: *The Pathology of Nutritional Disease*. Springfield, Charles C Thomas, 1948.
6. Smith: *The Kidney: Structure and Function in Health and Disease*. New York, Oxford University Press, 1951, p. 472.
7. McCarrison: Br. Med. J., *1*, 1009, 1931.
8. Meneely, Tucker, Darby and Auerbach: Ann. Intern. Med., *39*, 991, 1953.
9. Best and Hartroft: Fed. Proc., *8*, 610, 1949.
10. Hartroft: Am. J. Pathol., *31*, 381, 1955.
11. Burr and Burr: J. Biol. Chem., *82*, 345, 1929.
12. Burr and Burr: J. Biol. Chem., *86*, 587, 1930.
13. Simpson: Medicine, *50*, 503, 1971.
14. Pullman, Alving, Devor and Landowne: J. Lab. Clin. Med., *44*, 320, 1954.
15. Nielsen and Bang: Acta Med. Scand., *130*, 382, 1948.
16. Nielsen and Bang: Scand. J. Clin. Lab. Med., *1*, 295, 1949.
17. Sargent and Johnson: Am. J. Clin. Nutr., *4*, 466, 1956.
18. Kachadorican and Johnson: J. Appl. Physiol., *28*, 748, 1970.
19. Sargent and Johnson: Arch. Intern. Med., *99*, 190, 1957.
20. Schrier, et al.: Am. J. Clin. Nutr., *4*, 466, 1956.
21. Bleiler and Schedl: J. Lab. Clin. Med., *50*, 945, 1962.
22. McCance: Medical Research Council Special Report Serial Number 275. London, His Majesty's Stationery Office, 1951.
23. Owen, et al.: J. Clin. Invest., *48*, 574, 1969.
24. Felig, Owen, Wahren and Cahill: J. Clin. Invest., *48*, 584, 1969.
25. Alleyene: Rush-Presly. St. Luke Hosp. Bull., *9*, 84, 1970.
26. Berliner and Bennett: Am. J. Med., *42*, 777, 1967.
27. Klahr, et al.: Am. J. Med., *43*, 84, 1967.
28. Manitius, Pigeon and Epstein: Am. J. Physiol., *205*, 101, 1963.
29. Klahr, Tripathy and Lotero: Am. J. Med., *48*, 325, 1970.
30. Bloom: Arch. Intern. Med., *106*, 321, 1960.
31. Gamble: Harvey Lect., *42*, 247, 1947.
32. Hervey and McCance: Proc. R. Soc. Lond. Ser. B, *130*, 527, 1952.
33. Katz, Holingsworth and Epstein: J. Lab. Clin. Med., *72*, 93, 1968.
34. Consolazio, et al.: Am. J. Clin. Nutr., *20*, 672, 1967.
35. Keys, et al.: *Human Starvation*. Minneapolis, University of Minnesota Press, 1951.
36. Davies: Am. J. Clin. Nutr., *4*, 539, 1956.
37. Eales: Am. J. Clin. Nutr., *4*, 529, 1956.
38. Gershoff, Faragalla, Nelson and Andrus: Am. J Med., *27*, 72, 1959.
39. Liang: Biochem. J., *82*, 429, 1962.
40. Schwartz and Relman: N. Engl. J. Med., *276*, 383, 452, 1967.
41. Conn and Johnson: Am. J. Clin. Nutr., *4*, 523, 1966.
42. Conn and Johnson: Nutr. Rev., *28*, 72, 1960.
43. Bartters and Schwartz: Am. J. Med., *42*, 790, 1967.
44. Weisinger, Kempson, Eldridge and Swenson: Ann. Intern. Med., *81*, 440, 1974.
45. Symposium on Uremic Toxins. Arch. Intern. Med., *126*, 773, 1970.
46. Shaikin, Glatt and Berlyne: Kidney Int., *7*, S302, 1975.
47. Scribner and Babb: Kidney Int., 7, S349, 1975.
48. Rubenstein and Spiz: Diabetes, *17*, 161, 1968.
49. DeFronzo, Andres, Edgar and Walker: Medicine, *52*, 469, 1973.
50. Feldman and Singer: Medicine, *54*, 345, 1975.
51. Hampers, Soeldner, Doak and Merrill: J. Clin. Invest., *45*, 1719, 1966.
52. Luke, Briggs, McKiddie and Kennedy: In *Nutrition in Renal Disease* (Berlyne, Ed.). Baltimore, Williams & Williams, 1968, p. 170.
53. Bagdade, Porte and Bierman: N. Engl. J. Med., *279*, 181, 1968.
54. Bagdade: J. Clin. Nutr., *21*, 426, 1968.
55. Tsaltas and Friedman: Am. J. Clin. Nutr., *21*, 430, 1968.
56. Wochos, Anderson and Mitchell: Mayo Clin. Proc., *51*, 660, 1976.
57. Ahrens, Tsaltas, Hersch and Intull: J. Clin. Invest., *34*, 918, 1955.
58. Dole: J. Clin. Invest., *35*, 150, 1956.
59. Lewis, et al.: N. Engl. J. Med., *275*, 1097, 1966.
60. Berlyne and Malliek: Lancet, *2*, 399, 1969.
61. DeLuca: Ann. Intern. Med., *85*, 367, 1976.
62. Avioli, Birge, Lee and Slatopolsky: J. Clin. Invest., *47*, 2239, 1968.
63. Guyton, et al.: Circ. Res., *35*, 159, 1974.
64. Bright: Guys Hosp. Rep., *1*, 338, 1836.

65. Pickering: *High Blood Pressure.* New York, Grune & Stratton, 1955.
66. Nat. Center Health Statistics. USDHEW: Vital and Health Statistics Series II, No. 13, 1976.
67. U.S. DHEW: Statistics Series II, No. 4, 1976, p. 9.
68. Hamilton, Pickering, Roberts and Sowry: Clin. Sci., *13*, 11, 1954.
68a. Thomas: In *Hypertension, Mechanisms and Management* (Onesti, et al. Eds.). New York, Grune & Stratton, 1973, p. 66.
69. McKusick: Circulation, *22*, 857, 1960.
70. Medical News: J.A.M.A., *235*, 785, 1976.
71. Buck: J. Chronic Dis., *26*, 101, 1973.
71a. Kass, et al.: In *Epidemiology and Control of Hypertension* (Paul, Ed.). New York, Stratton Intercontinental Medical Book Co., 1975, p. 360.
72. Lee and Schneider: J.A.M.A., *167*, 1447, 1958.
73. Stamler, Stamler and Pullman: In *The Epidemiology of Hypertension.* New York, Grune & Stratton, 1967.
74. Dawber, et al.: In *The Epidemiology of Hypertension.* New York, Grune & Stratton, 1967, pp. 255–288.
75. Scotch and Geiger: J. Chronic Dis., *16*, 1183, 1963.
76. Henry and Cassel: Am. J. Epidemiol., *90*, 171, 1969.
77. Morris, Crawford and Healy: Lancet, *1*, 860, 1961.
78. Biorck, Bostrom and Widstrom: Acta Med. Scand., *178*, 239, 1965.
79. Schroeder: J.A.M.A., *172*, 1902, 1960.
80. Langford and Watson: Trans. Am. Clin. Climatol. Assoc., *83*, 125, 1922.
81. Priddle: Can. Med. Assoc. J., *86*, 1, 1962.
82. Meneely and Dahl: Med. Clin. North Am., *45*, 271, 1961.
83. Dahl and Love: J.A.M.A., *164*, 397, 1957.
84. Tobian and Binion: Circulation, *5*, 754, 1952.
85. Goldblatt: J. Exp. Med., *59*, 347, 1934.
86. Conn: Ann. Intern. Med., *44*, 1, 1956.
87. Thurston and Swale: Lancet, *2*, 930, 1976.
88. Adetuyibi and Mills: Lancet, *2*, 203, 1972.
89. Morris, Robinson and Scheck: Can. Med. Assoc. J., *90*, 272, 1964.
90. Koll, et al.: Circulation, *30* (Suppl. 2), 23, 1964.
90a. Bianchi, et al.: Clin. Sci. Mol. Med., *47*, 435, 1974.
91. Tobian: In *Epidemiology and Control of Hypertension.* New York, Stratton Intercontinental Medical Book Corp., 1975, pp. 131–146.
92. Tobian, et al.: Circ. Res., *36*, *37* (Suppl.), 1, 1975.
93. Tobian, et al.: Circ. Res., *39*, 337, 1976.
94. Smirk: In *The Epidemiology of Hypertension.* New York, Grune & Stratton, 1967, pp. 39–55.
95. Meneely, Ball and Youmans: Ann. Intern. Med., *47*, 263, 1957.
96. Meneely, et al.: Circulation, *12*, 401, 1955.
97. Dahl and Schackow: Can. Med. Assoc. J., *90*, 155, 1964.
98. Dahl, Heine and Tassinari: J. Exp. Med., *118*, 605, 1963.
99. Dahl, et al.: J. Exp. Med., *126*, 687, 1967.
99a. Kornel: Personal communication, 1977.
100. *Encyclopedia Britannica* (11th ed.), New York, 1911.
101. Denton: Nutr. Abstr. Rev., *39*, 1043, 1969.
102. Wotman, et al.: J. Chronic Dis., *20*, 833, 1967.
103. Page, Damon and Moellering: Circulation, *49*, 1132, 1974.
104. Oliver, Cohen and Neel: Circulation, *52*, 146, 1975.
105. Chagnon: National Geographic, August 1976, pp. 211–222.
106. Thomas: J.A.M.A., *88*, 1559, 1927.
107. Morse and Beh: Lancet, *1*, 966, 1937.
108. Page: Am. Heart J., *91*, 527, 1976.
109. Meneely and Batterlee: Am. J. Cardiol., *38*, 768, 1976.
110. Thomas: J.A.M.A., *88*, 1559, 1927.
111. Kark: Unpublished observations, 1945.
112. Maddocks: Lancet, *2*, 396, 1961.
113. Shaper: Am. Heart J., *63*, 437, 1962.
114. Shaper, Wright and Kyobe: East Afr. Med. J., *46*, 273, 1969.
115. Mann, et al.: J. Chronic Dis., *15*, 341, 1962.
116. Truswell, et al.: Am. Heart J., *84*, 5, 1972.
117. Mann, et al.: J. Atheroscler. Res., *4*, 289, 1964.
118. Cruz-Coke, Etchevery and Nagel: Lancet, *1*, 697, 1964.
119. Prior, et al.: Int. J. Epidemiol., *3*, 225, 1974.
120. Shaper, et al.: East Afr. Med. J., *46*, 282, 1969.
121. Page: Personal Communication, 1977.
122. Dahl: N. Engl. J. Med., *258*, 1152, 1958.
123. Dahl: Am. J. Clin. Nutr., *25*, 231, 1972.
124. Takahashi, et al.: Hum. Biol., *29*, 139, 1957.
125. Sasaki: Jpn. Heart J., *3*, 313, 1962.
126. Sasaki: Geriatrics, *19*, 735, 1964.
127. Fodor, Abbott and Rusted: Can. Med. Assoc. J., *108*, 1365, 1973.
127a. Stamler: In *The Epidemiology of Hypertension* (Stamler and Pullman, Eds.). New York, Grune & Stratton, 1967.
128. Meneely and Battarbee: *Present Knowledge of Nutrition.* Washington, The Nutrition Foundation, 1976.
129. Meneely and Ball: Am. J. Med., *25*, 713, 1958.
129a. Lemley-Stone, Darby and Meneely: Am. J. Cardiol., *8*, 527, 1961.
130. Dahl, Leitl and Heine: J. Exp. Med., *136*, 318, 1972.
131. Addison: Can. Med. Assoc. J., *18*, 281, 1928.
132. Priddle: Can. Med. Assoc. J., *25*, 5, 1931.
133. Thompson and McQuarrie: Proc. Soc. Exp. Biol. Med., *31*, 907, 1934.
134. McQuarrie, Thompson and Anderson: J. Nutr., *11*, 77, 1936.
135. Langford, Watson, Marino and Schoenberger: J. Clin. Res., *25*, 512A, 1977.
136. Committee on Nutrition, American Academy of Pediatrics: Pediatrics, *53*, 115, 1974.
137. Dahl: Am. J. Clin. Nutr., *21*, 787, 1968.
138. Dahl, et al.: Proc. Soc. Exp. Biol. Med., *133*, 1405, 1970.
139. Page: *In* Pickering, G. (Reference 65).
140. Veterans Administration Cooperative Study: Arch. Intern. Med., *106*, 81, 1960.
141. Veterans Administration Cooperative Study: J.A.M.A., *213*, 1143, 1970.

142. Veterans Administration Cooperative Study: Circ. Res., *38*, 362, 1976.
143. Fries: Arch. Intern. Med., *133*, 982, 1974.
144. Brown, et al.: Circulation, *43*, 508, 1971.
145. Forbes: Personal communication, 1977.
146. Mann: N. Engl. J. Med., *291*, 178, 1975.
146a. Klatsky: N. Engl. J. Med., *297*, 450, 1977.
147. Ambard and Beaujord: Arch. Gin Med., *1*, 520, 1904.
148. Allen: *Treatment of Kidney Diseases and High Blood Pressure*. Morristown, The Physiatric Institute, 1925.
149. Kempner: N.C. Med. J., *5*, 125, 1944.
150. Kempner: N.C. Med. J., *6*, 61, 1945.
151. Kempner: Am. J. Med., *4*, 545, 1948.
152. Medical Research Council: Lancet, *2*, 509, 1950.
153. Grollman, et al.: J.A.M.A., *129*, 533, 1945.
154a. *Maternal Nutrition and the Course of Pregnancy*. Washington, National Academy of Science, 1970.
154b. Lindheimer, Katz and Zuspan: *Hypertension in Pregnancy*. International Symposium University of Chicago. New York, John Wiley, 1976.
154c. Theobald: In *Ciba Foundation Symposium*. Philadelphia, The Blakiston Company, 1950, p. 23.
155. Chrichton: Transactions International Congress Obstetricians and Gynaecologists, Dublin, 1947.
156. Brock: Personal communication, 1956.
157. duPlessis: *The Cape Malays*. Cape Town, Maskew Miller, 1944.
158. Gerber: *Traditional Cookery of the Cape Malays*. Cape Town, A.A. Balkema, 1957.
159. Wachstein and Gudaitis: Am. J. Clin. Pathol., *22*, 652, 1952.
160. Sarles, et al.: Am. J. Obstet. Gynec., *102*, 1, 1968.
161. Schewitz: Med. Clin. North Am., *55*, 47, 1971.
162. Brown, et al.: Lancet, *2*, 900, 1963.
163. Robinson: Lancet, *1*, 78, 1958.
164. Kirksey and Pike: J. Nutr., *77*, 34, 43, 1962; *78*, 325, 1962; *80*, 421, 1963.
165. Perey, Herdman, Vernier and Good: J. Lab. Clin. Med., *70*, 881, 1967.
166. Camera, Reimer and Newburgh: Univ. Mich. Med. Bull., *18*, 285, 1952.
167. Von Rohrer: Arch. Ges. Physiol., *109*, 375, 1905.
168. Illingsworth, Philpott and Rendle-Short: Arch. Dis. Child., *29*, 551, 1954.
169. Mortensen: Acta Med. Scand., *129*, 321, 1947.
170. Kark, et al.: Ann. Intern. Med., *49*, 751, 1958.
171. Squire: Am. J. Clin. Nutr., *4*, 509, 1956.
172. Baxter: Arch. Intern. Med., *109*, 742, 1962.
173. Marsh and Drabkin: Metabolism, *9*, 946, 1960.
174. Baxter, Goodman and Allen: J. Clin. Invest., *40*, 490, 1961.
175. Hyman, Wong and Grossman: Pediatrics, *44*, 1021, 1969.
176. Newmark, Anderson, Donadio and Ellefson: Mayo Clin. Proc., *50*, 359, 1975.
177. Cattell: In *Recent Advances: Renal Diseases* (Jones, Ed.). London, Churchill Livingstone, 1975.
178. Chapman, et al.: Adv. Nephrol., *6*, 321, 1976.
179. Sargent, Sargent, Johnson and Stolpe: WADC Technical Report 53–484, Part II, Vols. I and II. Dayton, Wright Air Development Center, 1955.
180. Abel, Abbott and Fischer: Arch. Surg., *103*, 513, 1971.
181. Abel, Abbott and Fischer: Am. J. Surg., *123*, 632, 1972.
182. Abel, et al.: N. Engl. J. Med., *288*, 695, 1973.
183. Hegsted, Tsongas, Abbott and Stare: J. Lab. Clin. Med., *31*, 261, 1946.
184. Giordano: J. Lab. Clin. Med., *62*, 231, 1947.
185. Giordano, et al.: Am. J. Clin. Nutr., *21*, 394, 1968.
186. Giovannetti and Maggiore: Lancet, *1*, 1000, 1964.
187. Berlyne, Gaan and Ginks: Am. J. Clin. Nutr., *21*, 547, 1968.
188. Robson, Kerr and Ashcroft: In *Nutrition in Renal Disease* (Berlyne, Ed.). Baltimore, Williams and Wilkins, 1968, p. 93.
189. Furst, Josephson and Vinars: In *Nutrition in Renal Disease* (Berlyne, Ed.). Baltimore, Williams and Wilkins, 1968, p. 99.
190. Ford, Phillips, Toye, Luck and DeWardener: Br. Med. J., *1*, 735, 1969.
191. Walser: J. Clin. Invest., *53*, 1385, 1974.
192. Richards, et al.: In *Nutrition in Renal Disease* (Berlyne, Ed.). Baltimore, Williams and Wilkins, 1968, p. 93.
193. Richards, Brown, Houghton and Wrong: Clin. Nephrol., *3*, 173, 1975.
194. Cammarata and Cohen: J. Biol. Chem., *187*, 439, 1950.
195. Awapara and Seale: J. Biol. Chem., *194*, 497, 1952.
196. Rose: Science, *86*, 298, 1937.
197. Richards, Houghton and Brown: Lancet, *2*, 128, 1971.
198. Richards, Brown and Lowe: J. Nutr., *102*, 1547, 1972.
199. Giordano, Phillips and DePascale: Lancet, *1*, 178, 1972.
200. Rudman: J. Clin. Invest., *50*, 90, 1971.
201. Sapir, Owen, Pozefsky and Walser: J. Clin. Invest., *54*, 974, 1974.
202. Walser: Clin. Nephrol., *3*, 180, 1975.
203. Walser, Coulter, Dighe and Crantz: J. Clin. Invest., *52*, 678, 1973.
204. Gulyassy and DeTorrente: Kidney Int., *7*, S311, 1975.
205. Simenhoff: Kidney Int., *7*, S314, 1975.
206. Tam, Kopple, Wang and Sevendeid: Kidney Int., *7*, S328, 1975.
207. Giordano, et al.: Br. Med. J., *4*, 714, 1973.
208. Bagdade: Kidney Int., *7*, S370, 1975.
209. Sanfelippo, Swenson and Reaven: Kidney Int., *11*, 54, 1977.
210. Hampers, et al.: N. Engl. J. Med., *276*, 551, 1967.
211. Sullivan and Eirenstein: Am. J. Clin. Nutr., *23*, 1339, 1970.
212. Dobbelstein, et al.: Kidney Int., *5*, 233, 1974.
213. Stone, Warnock and Wagner: Am. J. Clin. Nutr., *28*, 950, 1975.

214. Brickman, Coburn, Norman and Massry: Am. J. Med., *57*, 28, 1974.
215. Brickman, Coburn and Massry: Ann. Intern. Med., *80*, 161, 1974.
216. Chan, Oldham, Holick and DeLuca: J.A.M.A., *234*, 47, 1975.
217. Bricker: N. Engl. J. Med., *286*, 1093, 1972.
218. Reiss, Canterbury and Kanter: Arch. Intern. Med., *124*, 417, 1969.
219. Fornier, Arnoud and Johnson: J. Clin. Invest., *50*, 599, 1971.
220. Slatopolsky, Robson and Elkan: J. Clin. Invest., *47*, 1865, 1968.
221. Slatopolsky, Caglar and Pennell: J. Clin. Invest., *50*, 492, 1971.
222. Lennon: Arch. Intern. Med., *124*, 557, 1969.
223. Dunea: Med. Clin. North Am., *55*, 155, 1971.
224. Berlyne, Jones, Hewitt and Nitwarangkur: Lancet, *1*, 738, 1964.
225. Berlyne, et al.: Lancet, *1*, 1339, 1967.
226. Young and Parsons: Clin. Sci., *97*, 1, 1969.
227. Schaeffer, et al.: Clin. Nephrol., *3*, 228, 1975.
228. Glessing: Lancet, *2*, 812, 1968.
229. Sevit and Hoffbrand: Br. Med. J., *2*, 18, 1961.
230. Palmer, Newell, Gray and Quinton: N. Engl. J. Med., *274*, 248, 1966.
231. Giordano, et al.: In *Nutrition in Renal Disease* (Berlyne, Ed.). Baltimore, Williams and Wilkins, 1968, p. 23.
232. Young and Parson: Clin. Sci., *31*, 299, 1969.
233. Ginn, Frost and Lacy: Am. J. Clin. Nutr., *21*, 385, 1968.
234. Gulassy, Peters, Lin and Ryan: Am. J. Clin. Nutr., *21*, 565, 1968.
235. Bergstrom, Furst and Noree: Clin. Nephrol., *3*, 187, 1975.
236. Noree and Bergstrom: Clin. Nephrol., *3*, 195, 1975.
237. Heidland and Kult: Clin. Nephrol., *3*, 234, 1975.
238. Whitehead, Comty, Posen and Kaye: N. Engl. J. Med., *279*, 970, 1968.
239. Sullivan and Eisenstein: Am. J. Clin. Nutr., *23*, 1339, 1970.
240. Kopple and Swendseid: Kidney Int., 7, S79, 1975.
241. Mansouri, Halsted and Gambos: Arch. Intern. Med., *125*, 88, 1970.
242. Symposium on Stones. Am. J. Med., *45*, 5, 1968.
243. Williams: N. Engl. J. Med., *290*, 33, 1974.
244. Boyce: Am. J. Med., *45*, 673, 1968.
245. Herring: J. Urol., *88*, 545, 1962.
246. Coe and Kavalach: N. Engl. J. Med., *291*, 1344, 1974.
247. Yendt: Can. Med. Assoc. J., *102*, 479, 1970.
248. Henneman, Benedict, Forbes and Dudley: N. Engl. J. Med., *259*, 802, 1958.
249. Coe, Canterbury, Firpo and Reiss: J. Clin. Invest., *52*, 134, 1972.
250. Wills, et al.: Clin. Sci., *39*, 95, 1970.
251. Coburn and Massry: J. Clin. Invest., *49*, 1073, 1970.
252. Gutman and Yu: Am. J. Med., *45*, 756, 1968.
253. Gershoff and Prien: Am. J. Clin. Nutr., *20*, 393, 1967.
254. Stauffer, Humphreys and Weir: Ann. Intern. Med., *79*, 389, 1973.
255. Smith, Fromm and Hofmann: N. Engl. J. Med., *286*, 1371, 1972.
256. Gilbert, Brewer, Fajardo and Weinstein: Arch. Intern. Med., *137*, 239, 1977.
257. Dobbins and Binder: N. Engl. J. Med., *296*, 298, 1977.
258. Chadwick, Modha and Dowling: N. Engl. J. Med., *289*, 172, 1973.
259. Baron, et al.: Lancet, *271*, 421, 1956.
260. Fanconi: Jahrb. Kinderheilkd., *147*, 299, 1936.
261. Milkman: Am. J. Roentgenol., *24*, 29, 1930.
262. Albright, et al.: Medicine, *28*, 399, 1946.
263. Schwartz: N. Engl. J. Med., *253*, 601, 1955.
264. Milne, Muehrcke and Heard: Br. Med. Bull., *13*, 15, 1957.
265. Perkins, Petersen and Riley: Am. J. Med., *8*, 115, 1950.
266. Black and Milne: Clin. Sci., *11*, 397, 1952.
267. Muehrcke and McMillan: Ann. Intern. Med., *59*, 427, 1963.

EXHIBIT 5
DATE 2-6-91
SB 66

February 6, 1991

Members of House Committee on Human Services and Aging
House Hearing; SB66 Naturopathic License

I am here today to testify in support of licensing the Naturopathic physicians.

My name is Allen Lefohn and I live in the Helena area. I am an active research scientist with a doctorate in chemistry. I have included a copy of my Resume. I am a scientist who specializes in theoretical research that focuses on the effects of acidic precipitation, ozone, and global change on the ecosystem. I have published approximately 70 peer-reviewed scientific articles and more than 80 technical reports. My research is published in journals around the world. I am presently an executive editor of the internationally acclaimed scientific journal, *Atmospheric Environment*.

As a scientist, I have been trained to carefully evaluate data and draw conclusions concerning cause and effect relationships. Science involves more than the implementation of complex laboratory experiments. Science involves an orderly method to solve problems, in which a recognized problem is subjected to thorough investigation, and the resulting facts and observations are analyzed, formulated into a hypothesis, and subjected to verification by means of experiments and further observations.

A key ingredient used in the scientific approach is observation. Observation provides us with the identification of a recognized problem. Observation serves as the focus for our creating the questions for which we seek rational answers. In many cases, scientific learning is advanced through the collection of what may appear to be unrelated observations. It is this collection of observations that provides a scientist with specific patterns of information that, in many cases, help explain cause and effect relationships. Once identified, these patterns of information can be used by the scientist to develop several working hypotheses that can be further tested.

Recognizing that science is the search for truth and is the knowledge of facts and laws arranged in an orderly system, I have been trained to continuously challenge the thoughts and ideas that are commonly accepted in my field of research. One of the major talents that a scientist must have is the ability to have an open mind, critically observe facts, and draw rational conclusions. I would like to take the time today to share with you some of my observations.

For the past 3 1/2 years, my wife has experienced Chronic Fatigue Syndrome, a disabling disease whose symptoms are similar to Mononucleosis, but which lasts from several years to a lifetime. During the early stages of her disease, she sought help from several medical professionals. It was readily apparent that conventional medical help did not exist, either for alleviating the symptoms of Chronic Fatigue Syndrome or helping the patient recover from the illness.

Fortunately, naturopathic medicine was available. Over those 3 1/2 years, I have seen my wife travel through the many stages associated with Chronic Fatigue Syndrome. With the help of Dr. Michael Bergkamp, a local naturopathic doctor, each new symptom or group of symptoms has been treated effectively. More importantly, herbal and homeopathic medicine, nutritional approaches, and acupuncture have all helped strengthen her own immune system, allowing her to recover.

With my scientific curiosity piqued, I have read articles and books that describe the underlying principles associated with naturopathic medicine and believe those principles to be well founded. Many of the naturopathic principles are based on encouraging the body to help itself. For example, herbal remedies are used to stimulate various chemical processes in our bodies that protect us from disease. The Chinese, who started using herbs as medicines about 5,000 years ago, still successfully use herbal remedies in modern hospitals. Among the oldest herbal remedies are ginseng, ginkgo leaves, and garlic. Nearly 50% of all prescriptions issued by conventional physicians today contain one or more key drugs that are either directly derived from natural sources (i.e., herbs) or synthesized from natural models. Major drug manufacturers spend billions of dollars each year on drugs derived from plants. Digitalis, a drug used to treat congestive heart failure, comes from the foxglove plant.

It is my belief that many of the sophisticated medical approaches used by naturopaths complement and supplement the sophisticated surgical methods used by

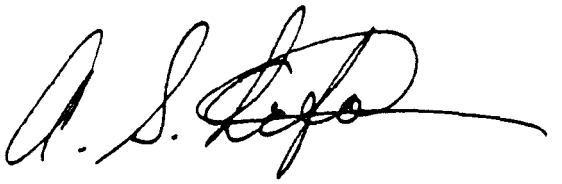
western physicians. It is the meeting of the medical philosophies of the East and West, for the benefit of you and me, that will provide each of us with the choice of how best to allow our bodies to be healed from the many common and not-so-common ailments from which we may suffer.

As a scientist, besides having the opportunity to observe the effects of my wife's treatments for Chronic Fatigue Syndrome, I have observed similarly successful effects on myself during times when I have been a patient of Dr. Bergkamp. Approximately 16 months ago I found myself in the intensive care unit of St. Peter's hospital, suffering from an irregular heartbeat. Following several days of tests that yielded negative results, I was told to lose weight, work a little less than the average 18 hours a day, and exercise. Having left the hospital with the above recommendations, cardiac medication, and the results of my extensive medical tests, I chose to combine conventional and naturopathic medicine as I planned strategy for healing. I have explored ideas and approaches with Dr. Bergkamp for providing my body with the proper supplements and nutrients to support my running and biking activities and to optimize my overall health. Utilizing the suggestions he has made, I have remained off all cardiac medication, with my internist's approval, the past year and am healthier than I have been in 20 years.

I am thankful that naturopathic doctors were available to assist my wife and me. Naturopathic medicine complements the more conventional medical approaches that are presently used around the world. It is important that naturopathic doctors be provided

with the legislative tools to regulate themselves so that proper standards and practices can be achieved through peer review. I urge you to provide licensing to the naturopathic physicians so that their profession is regulated in a manner similar to any other medical profession.

5
2-6-91
SB 166



Allen S. Lefohn, Ph.D.
P.O. Box 196
Clancy, MT 59634

EXHIBIT 6
DATE 2-6-91
SB 666

ALLEN S. LEFOHN

Education and Experience

1969 Ph.D. (physical chemistry: chemistry, mathematics, physics, infrared spectroscopy, engineering, and electronics), University of California, Berkeley.

1966 B.S. (chemistry), University of California, Los Angeles.

Dr. Lefohn is a respected scientist who is recognized for his work in assessing the effects of ozone, sulfur dioxide, and acid rain on the environment. His research is directed at better understanding (1) the quantification and relationship between pollutant exposure and naturally occurring processes and (2) the possible effects of air pollutants on the ecosystem. He was the lead author of the NAPAP State-of-Science paper: Air Quality Measurements and Characterizations for Vegetation Effects Research. His past responsibilities have included his participation as senior researcher for the EPA's National Crop Loss Assessment Network (NCLAN). In this capacity, he was responsible for characterizing ambient air quality data and comparing the information with data collected under experimental conditions. He is an Executive Editor of *Atmospheric Environment* and is an Adjunct Instructor of Environmental Engineering at Montana Tech in Butte, Montana.

Professional Accomplishments

1981-	A.S.L. & Associates, President and Founder.
1979-1981	International Research and Technology Corporation - Director, Rocky Mountain Office.
1978-1979	Environmental Protection Agency; Helena, Montana. Energy Coordinator - Montana Operations Office (Regional Office).
1976-1978	Environmental Protection Agency; Helena, Montana. Director, Montana Energy Operations Office.
1973-1976	Environmental Protection Agency; Corvallis, Oregon. Chief, Animal Ecology Branch, National Ecological Research Laboratory.
1971-1973	Environmental Protection Agency; Washington D.C. Physical Science Administrator, Special Projects Staff.
1971	Environmental Protection Agency; Research Triangle Park, North Carolina. Research Physical Chemist, Atmospheric Chemistry and Physics Laboratory.

EXHIBIT - 1
DATE 2-6-91
SB 166

MONTANA MEDICAL ASSOCIATION

2021 Eleventh Avenue • Helena, Montana 59601-4890
Telephone (406)443-4000 or In-State 1-800-MMA-WATS (662-9287)
FAX (406)443-4042

February 1, 1991
Friday

M E M O R A N D U M

TO: EACH MONTANA PHYSICIAN

FROM: G. BRIAN ZINS, EXECUTIVE VICE PRESIDENT

RE: SENATE BILL - 66, LICENSING NATUROPATHIC PHYSICIANS

Dear Doctor:

Senate Bill 66 will be heard by the House Committee on Human Services and Aging on Wednesday, February 6. The hearing will convene at the State Capitol Building, Room 312-2, at 3:00 p.m. Wednesday afternoon.

This Association strongly opposes licensure and/or recognition of this discipline. - this seems unfortunate in light of the WSMA on the back side of this letter

This bill has already passed the Senate with 34 in favor and 12 opposed (4 were excused).

Your presence, your letter or your telephone call in opposition ~~to~~ this bill is needed.

The members of the House Committee on Human Services and Aging are Representatives: Angela Russell, Chair, Lodge Grass; Tim Whalen, Vice Chair, Billings; William Boharski, Kalispell; Jan Brown, Helena; Brent Cromley, Billings; Tim Dowell, Kalispell; Patrick Galvin, Great Falls; Stella Jean Hansen, Missoula; Royal Johnson, Billings; Betty Lou Kasten, Brockway; Thomas Lee, Bigfork; Charlotte Messmore, Great Falls; Jim Rice, Helena; Sheila Rice, Great Falls; Wilbur Spring, Belgrade; Carolyn Squires, Missoula; Jessica Stickney, Miles City; Bill Strizich, Great Falls; and Rolph Tunby, Plevna.

Please address your correspondence to the representative(s), whether or not from your area, in care of the State Capitol, Helena, Montana 59620; you may telephone at 444-4800 or FAX to 444-4105. Your response to this request will materially assist in defeating this legislation.

Thank you and all best wishes.

GBZ:le

Appendix A

Washington State Medical Association

Governmental Affairs Office, 410 East 11th Avenue, Suite 210, P.O. Box 2376, Olympia, Washington 98507-2376
(206) 352-4848 1-800-562-4546

April 17, 1987

TO: Members of the Washington State Legislature

FROM: Ed Larsen, Director of Governmental Affairs

SUBJECT: Amendment H-3147/87 to SSB 5219 - the Naturopathic Practice Act

Draft amendment H-3147/87 to SSB 5219 is a comprehensive revision to the Naturopathic Practice Act. This revision is the product of extensive negotiations between the Washington State Medical Association and the Naturopaths. This substitute meets our concerns and with its adoption we no longer oppose passage of the naturopath's bill. We wish to thank the Naturopath's Association for their willingness to negotiate our differences in good faith and feel the end product is a workable, enforceable licensure act which defines a scope of practice for naturopaths which is in keeping with their education and professional preparation.

EL:pw

EXHIBIT 8
DATE 2-6-91
SB 66

p.j. hennessy, m.d.
243 NORTH AVE. EAST
MISSOULA, MT 59801
(406) 721-8849

Testimony for SB 66
House Human Services and Aging Committee
6 February 1991

I am a family physician with special training in public health. During my 15 years in primary care I have observed that the medications and therapy prescribed by allopathic doctors such as myself sometimes have significant untoward effects for some patients. These side effects require that the treatment be discontinued. Naturopathy uses homeopathic remedies. For some this is the only resort. The presence of this option serves to improve the health of those unable to use more customary regimens of medicine.

My impression after reading SB66 is that this piece of legislation will rigorously oversee and regulate the quality and performance of those seeking to practice naturopathy. I believe it is a strong protection for Montanans who choose this path of health care. I urge you to support it.

PJHennessy MD

EXHIBIT 9
DATE 2-6-91
SB 66

Testimony of

Dr. Russell M. Jaffe, MD, PhD, FCAP (CP/CC), FASCP, FACN, FAIAIS

on behalf of **Senate Bill 66,** 52nd Montana Legislature

Madame Chairman and Senators of the Committee: It is my privilege to testify before you as a physician on behalf of this bill to license maturopathic doctors. First I would like to present my professional background and then support passage of this legislation as vital to the interests of Montana citizens.

Background on Dr. Jaffe: My medical schooling includes an MD (with honors) and a PhD (in Biochemistry and Medical Science) from Boston University Medical Center (BUMC) in 1972. After an Internship in Medicine done at University Hospital in Boston (BUMC's academic teaching hospital) I was awarded a United States Public Health Service Commission and was assigned to the Clinical Center of the National Institutes of Health (NIH) where a Residency in Clinical Pathology lead to Board certification in laboratory medicine in 1975 and to subspeciality board certification in Chemical Pathology in 1977. From 1975-1979 I was a permanent Senior Staff Physician at NIH. During my tenure at NIH my group developed novel laboratory procedures including a high specificity early colon cancer screening test; specialized tests of blood clotting that help link changes in stress with the stickiness of blood platelets with risk of heart disease; research on the reversibility of coronary artery disease and athreosclerosis; a test to detect blood loss from the intestine; methods for preservation of blood platelets; and fundamental research on the mechanism by which structural proteins (collagen) activate blood platelets.

For this work The J. D. Lane (USPHS) Annual Research Award, the Merck, Sharpe, and Dohme Excellence in Research Award, NIH Meritorious Service Awards have been awarded. My publications include over 40 peer reviewed articles and a roughly equal number of invited papers, abstracts, symposia addresses and books. Since leaving government service I have worked for a healthier America as Fellow of the Health Studies Collegium and through private sector initiatives including projects or reports to The Governor's Office of the State of California; The Board of Agriculture of the State of Hawaii; and The Health Insurance Association of America. Since 1987 I have been Medical Director of Serammune Physicians Laboratory, provider of a state-of-the-art blood test of immune reactions of blood cells. Since 1989 I have also been Director of the Princeton BioCenter, a 20 year old foundation sponsored research institute. I am an elected Fellow of several medical professional societies including the American Society of Clinical Pathologist (ASCP), the American College of Nutrition (ACN), and the American In Vitro Allergy Immunology Society (AIAIS). My qualification for being here is simply that I provide continuing education lectures to over 5,000 medical and naturopathic doctors through invited lectures to professional societies and graduate schools. While I am sure that many of the people who appear before you are distinguished and represent large constituencies, I provide myself and my family's experience as the basis for my remarks.

Reasons why Dr. Jaffe testifies on behalf of this bill:

1. Montana citizens deserve freedom of choice
2. Naturopathic doctors are competently, scientifically, and clinically well trained
3. This bill can help contain costs of medical care
4. Competition in the physicians market is healthy
5. People look to you Senators for protection
6. Naturopathic medicine is being used and unregulated environments invite problems
7. There is a need for professional peer review

EXHIBIT 9
DATE 2-6-91
SB 166

Addressing each of these points in turn...

1. Montana citizens deserve freedom of choice

As American citizens, your constituents deserve to have the freedom to choose among safe and effective forms of health care. This is a basic, constitutional right which is as important in health care as in any aspect of life. People with health needs should have the choice of their health care provider – as they currently do among allopathic (conventional), osteopathic, chiropractic, and podiatric doctors.

2. Naturopathic physicians are competently, scientifically, and clinically well trained

One of the key questions about this bill is the safety and efficacy of naturopathic medicine. While more study always needs be done (or so we scientists almost alwyas say), there is enough scientific literature to satisfy me that the answer to this question of safety and efficacy **is that naturopathic practice is as safe and effective**[1,2], within it's scope of practice, as allopathic medical practice, podiatric practice, osteopathic practice, optometric practice, and chiropractic practice. Studies have shown that naturopathic doctors spend more time per patient visit and that patient outcomes are at least comparable between naturopathic and other doctors, within proper scopes of practice.

One measure of the safety and efficacy issue is the low cost of malpractice insurance for naturopathic doctors compared with medical doctors. For example, a naturopathic doctor pays about $2,000 which is less than one third of the $7,000 premium that a General medical doctor pays in malpractice fees (HIAA, AANP, and WANP, personal communications). In addition, in a four year study by Master Insurance Trust the incidence of naturopathic doctors having malpractice claims made against them was lower than for comparable medical doctors.

In my lectures before naturopathic students I find no difference in level of ability or enthusiasm from that of medical students. If anything, naturopathic students seem

1. Pizzorno, J and Murry, M Textbook of Natural Medicine, Bastyr Press, 1987.
2. Bergner, P Toward documenting the cost effectiveness of naturopathic medicine. AANP Quarterly Newsletter. 1989; 5: 32-35.

more highly motivated and clear in their intent to serve people than medical students. In my continuing education lectures, the attentiveness of the audience and the quality of questions asked is comparable between naturopathic and medical doctors. In my collaborative research in biochemistry, immunology, and toxicology, I find no difference in depth of knowledge of the scientific literature between naturopathic and medical scientists.

Further the curricula for training of naturopathic and other medical doctors are quite similar. The following chart compares naturopathic and allopathic practice.

CURRICULA COMPARISON BETWEEN NATUROPATHIC AND ALLOPATHIC MEDICAL STUDENTS

TRAINING CATEGORY	NCNM[3]	JBC[4]	AAMC[5] AVERAGE[6]
Basic & Pre-Clinical Sciences	2070 hours	1891 hours	1678 hours
Clinical Clerkships	1974 hours	1959 hours	3455 hours
Natural Therapeutics	492 hours	335 hours	0 hours
Therapeutic Nutrition	144 hours	138 hours	12 hours
Counseling	144 hours	158 hours	6 hours
TOTALS	4824 hours	4481 hours	5151 hours

Further, as a person who enjoys the minute details of scientific investigation and the process of scientific discovery, I assure you that naturopathic medicine is as well grounded today in contemporary science as allopathic medicine. In both areas, great stride yet need be made.

---

3. NCNM = NATIONAL COLLEGE OF NATUROPATHIC MEDICINE, PORTLAND, ORE.
4. JBC = JOHN BASTYR COLLEGE OF NATUROPATHIC MEDICINE, SEATTLE, WA.
5. AAMC = AMERICAN ASSOCIATION OF MEDICAL COLLEGES, WASHINGTON, DC
6. OF 106 ALLOPATHIC MEDICAL COLLEGES

EXHIBIT 4
DATE 2-6-91
SB 666

Some of my medical colleagues oppose this bill on grounds that naturopathic medicine is not scientifically documented. As someone who ought to know better, I respectfully submit that those who oppose this bill on that supposed grounds, are unaware of the facts.

In conclusion naturopathic medicine is as scientifically grounded and well documented as other medical disciplines.

3. This bill can help contain costs of medical care

We are all painfully aware the costs of medical care continue to rise in spite of heroic efforts to contain them. At the same time peoples confidence in medical professionals is at an all time low.[7] As my grandmother used to say, "The rents are going up and the ceilings are coming down."

By following Surgeon General's Richmond[8] and Koop[9] and also Secretary of Health and Human Services Sullivan's[10] recommendation to employ preventive health approaches; to seek and treat the cause not the consequence of a health problem; to apply low risk / high gain approaches first, naturopathic and other prevention-oriented physicians have been shown to be cost effective in their provision of care[11]. A large part of this derives from naturopathic doctors use of less expensive diagnostic technologies to achieve comparable, equivalent results.

4. Competition in the physicians market is healthy

It is my experience that competition is healthy, useful, and timely.

5. People look to you Senators for protection

---

7. Califano, J 'Billions blown on health', New York Times 14 April 1989
8. Richmond J U S Surgeon Generals report on healthy Americans, DHHS, US Govt Print Off, 1978.
9. Koop, C E. U.S. Surgeon Generals report on nutrition and health, U S Govt Printing Office, 1988
10. Sullivan L Health 2000 Report, DHHS, US Govt Printing Office, 1990
11. Hawaii State Auditor, "Study of proposed mandatory health insurance for naturopathic care." Leg Aud, State of Hawaii, December 1989, p12.

You have been selected by your fellow citizens to represent their interests. In my conversations with airport personnel, hotel employees, and legislative staff it is clear that citizens want competent professionals to regulate their professions behavior. People also want the choice available from amongst various professional choices for their care. This is what I hear from Glacier National Park to Bozman; from Billings to Kalispell; from Helena to Arlie.

6. **Naturopathic medicine is being used and unregulated environments invite problems**

This brings me to a companion point: naturopathic doctors are practicing in this state. They are currently unregulated. There are people who present themselves as naturopaths without proper training. I call upon you to protect people from harm by enacting this legislation.

7. **There is a need for professional peer review**

I urge you to include proper standards and practices as well as proper peer review in the legislation in order to provide choice to caring, cost effect competent care to yourselves and your fellow citizens.

I am grateful for your attention and the courtesy of listening to my remarks.

EXHIBIT 9
DATE 2-6-91
SB 166

William F. Corell, M.D.
Family Practice • Holistic & Preventive Medicine

S. 3424 Grand Blvd. • Spokane, WA 99203-2621 • (509) 838-5800

January 17, 1991

Montana Legislature
Senate Health Committee

RE: Senate Bill 66
Naturopathic Health Care Practice Act

Dear Health Committee Members:

I am a family practitioner, having been licensed to practice in the state of Washington since 1979. During the last 10 years of my practice, I have been involved in integrating traditional medical care with a more naturally oriented practice. As a result, I have had numerous opportunities of interacting with naturopathic physicians, and this experience has been most favorable. I would strongly support licensure for naturopathic physicians, as I believe this provides distinct advantages for physicians and patients in the state of Montana. I have developed a profound respect for most of the naturopaths with whom I have had contact. Their education at this point time is appropriate and adequate for the situations that they deal with. I have found them to be clinically effective in a number of practice situations which have not responded well to medication or surgery, from a traditional medical standpoint. Finally, the integrity of most of the naturopathic physicians whom I have encountered has been beyond reproach. I have found my interactions with naturopathic physicians to be an enhancement to my practice, and an expansion of patient choice. As a result, I feel complimented by naturopaths, rather than threatened by them.

I understand that many M.D.'s in Montana have not had an opportunity to work directly with naturopathic physicians, and as a result, may feel uncomfortable in providing licensure for naturopaths. I would offer my 10 years positive experience working with naturopaths as a reassurance in this regard. I would also suggest that licensure is the best way to provide quality assurance, to make sure that medical care, both traditional and naturopathic, is of the highest possible caliber. Therefore, I strongly support the licensure of naturopathic physicians in the state of Montana. If I can provide further details, please do not hesitate to contact me. Enclosed is my curriculum vitae for your review.

Thank you for your attention in this matter.

Sincerely yours,

Wm Corell

William F. Corell, M.D.

WC/jm

Enclosure

dictated but not read

WHOLISTIC FAMILY MEDICINE

Ben & Linda Hole, M.D.

1-17-91

To Montana State Legislature: re Senate Bill #66

Dear Sirs and Ladies,

I have been a medical doctor for 27 years. I was trained at Stanford and am board certified in diagnostic radiology.

For the past 8 years I have had the pleasure of professional association with Naturopathic Physicians whom I have learned to admire, trust and respect. I believe they bring a valuable and fresh approach to patient care, an approach that is complimentary and certainly not antagonistic to conventional medical practices. I believe your Montana citizens would benefit greatly by a change in your state laws that will allow a better access to Naturopathic Medicine.

I encourage you to affirm Senate bill #66.

Respectfully,

Ben Hole, M.D.

S. 906 Cowley • Spokane • WA 99202 • (509) 747-2902

EXHIBIT 10
DATE 2-6-91
SB 66

Montana Dietetic Association
Testimony in Opposition to Senate Bill 66 - February 6, 1991

Madam Chair, members of the committee, my name is Cindy Lewis. I am a licensed nutritionist employed by St. Peter's Community Hospital in Helena. I represent the Montana Dietetic Association and speak on behalf of its 200 members in the State of Montana.

The position of the Montana Dietetic Association continues to be that naturopaths do not have the academic training nor the clinical experience to provide "nutrition counseling and dietary therapy" as proposed in Section 4.(2)(b) of Senate Bill 66.

State law (37-25-101,MCA) provides that "nutritional assessment and counseling affects the public health, safety, and welfare". It also outlines strict educatational, experience, and continuing educational requirements to be able to provide "nutritional assessment and counseling". These requirements were established by the Montana legislature after extensive deliberation in 1987. While the proponents testify that they receive more education than nutritionists, a review of their coursework, provided by the proponents themselves, lists only 4 actual nutrition courses in four years.

The Montana Dietetic Association believes that nutrition is vital to public health and that inappropriate counseling can often create a greater hazard than no counseling at all. To provide counseling to those with acute nutritional or medical needs can be counter to recognized medical treatment and may deter the patient from seeking proper nutritional counseling or medical treatment.

The public depends on the credentials and approvals provided by public agencies to guide them in their choices of health care professionals, yet no one so far has even asked this group what exactly they do, what treatments they provide to the people of this state that is so different from traditional and accepted nutritional practices. Naturopaths are trained to do coffee enemas. Is this a proven therapy? What is the potential for harm?

Particular concerns in this bill are:

- that naturopaths would be free to sell products they prescribe or recommend directly to their patients. This raises ethical concerns: The more they prescribe, the more they sell. Other health care professionals have both legal and ethical restrictions against such a possible financial interest in products they prescribe or recommend.
- a board to regulate only naturopaths is provided for , yet proponents admit there would be only about 12 persons in Montana who could be licensed;
- the recommended board would include no other health care professionals for this as yet unproven health care practice, yet they would be allowed, in Section 10, to adopt any rules specifying the scope of practice of naturopathy;
- proponents of naturopathy stress that success in many of their therapies

cannot be measured by traditional methods such as double blind, controlled studies. Should it be acceptable in Montana to allow these treatments to be used on children, who do not have a freedom of choice?

Perhaps more importantly for this committee, however, is the fact that there has been no demonstrated need for their licensure in the State of Montana. This bill does not fulfill the stated purposes of licensing the this state, e.g.

- There is **no** proof that the unregulated practice of naturopathy directly and immediately endangers the public health, safety and welfare.
- There is **no** proof that the public is not protected by other means.
- There is **no** proof that a majority of the public lacks the knowledge or experience to evaluate whether the practitioner is competent.

The proponents do not appear to have met the burden of proof that regulation is necessary under the criteria of the Sunrise Act which was passed to avoid just this situation. If there is no proof that the unregulated practice of naturopathy directly and immediately endangers the public health, the quest for licensure would appear to function only as a way to try to legitimize this practice. This committee and the Legislature must be extremely cautious in extending the public seal of approval to people and practices that are not based on medical and scientific research.

In conclusion, Madam Chair, the Montana Dietetic Association and its 200 members throughout the State are opposed to legitimizing of a group of health care practitioners not adequately trained in present nutritional practices to assess, evaluate, and counsel on nutritional needs for the people of Montana. We do not feel our objections represent a battle of turf - most of us in Montana have for years been concerned about the health risks of "food fads", nutritional misinformation, and extreme and inappropriate nutrition advise given by untrained people. The majority of the public recognize the dangers of diets and fads, particularly for children. We strongly object to the misrepresentation of the education of nutritionists by the proponents. A strong clinical nutrition education is only one of the areas of our study. We also extensively study the role of food and exercise in preventive health. A majority of the tiome spent in my position - in a hospital setting - is in fact preventive nutrition counseling, wellness, and lifestyle changes.

We do not feel this represents a freedom of choice issue. The legislature must draw the line somewhere in legitimizing and licensing non-traditional and unproven health care practices.

And finally, we are opposed to legitimizing and licensing a group of less than 20 individuals who have **not** met the burden of proving that regulation is necessary under the criteria stated in the Sunrise Act passed by the Montana legislature in 1987. I would challenge the proponents to legitimize their profession as others have done, by working with institutions of higher learning, including those in Montana, to discover if individual treatments they use are actually effective, or only treatments, high doses of vitamins, glandular extracts or botanical medicines only

appear to cure because of the placebo effect or the passage of time.

I would ask this committee and the legislature to follow the intent of the Sunrise Act and require that groups seeking licensure fulfill the stated purposes of licensing in the State of Montana.

Thank you Madam Chair and members of the Committee. I would be happy to answer any questions you may have later.

MHA MONTANA HOSPITAL ASSOCIATION

1720 NINTH AVENUE • P.O. BOX 5119
HELENA, MT. 59604 • (406) 442-1911

EXHIBIT 11
DATE 2-6-91
SB 66

Testimony of
James F. Ahrens, President
Montana Hospital Association
before the House Human Services & Aging Committee
February 6, 1991

Thank you for this opportunity to testify. The Montana Hospital Association, on behalf of its 58 member hospitals, is opposed to SB 66.

We do so for one reason. MHA believes the Montana Legislature should not authorize the licensing of health professions unless there is irrefutable evidence of the efficacy of the profession to be licensed.

No such independent peer review study that would document the claims of naturopaths that their treatment is successful has been provided to the Legislature during consideration of this bill.

Hospitals are also concerned that even though this bill does not grant naturopaths hospital privileges, it would open the door for them to do so in the future.

For example, the section on the Practice of Naturopathic Health Care -- Section 4, item 3 -- would authorize naturopaths to order certain diagnostic tests. Hospitals are concerned about this provision, because it could be interpreted to invite requests for ordering these tests from their facilities.

Furthermore the bill would permit naturopaths to conduct what is called "minor surgery." In our view, this definition establishes a precedent that would make it easier for naturopaths to broaden their scope of service in the future to a level that would be unsafe. And, that could potentially put Montana's hospitals at risk.

The bill also would permit naturopaths to perform "childbirth attendance," under certain circumstances outside the hospital. But the bill does not address the issue of liability for the hospital if an emergency arises during such treatment and emergency room treatment is required.

Finally, the bill would grant naturopaths pharmacy privileges for prescribing, dispensing and administering drugs, as specified by the Board. Again, there is a question about whether naturopaths' training is sufficient to enable them to perform safely the full range of pharmaceutical services inferred by this language.

Amended to Senate Bill 66 (third reading - blue)
proposed by
Montana State Pharmaceutical Association

EXHIBIT 12
DATE 2-6-91
SB 66

Section 4, page 6, line 4
following: "50-31-301"
strike: "except those natural therapeutic substances and drugs authorized by subsection (2) or [section 10 (2)]"

Section 4, page 6, line 19
following: "therapies"
insert: ", provided they are not legend drugs"

R.D. MARKS, M.D.
Family Practice

Missoula Community Physicians Center #2
2831 Fort Missoula Road
Missoula, MT 59801 • Office Phone 542-1232

EXHIBIT 13
DATE 2-6-91
SB 66

February 4, 1991

To the Members of the House Human Services Committee:

I am writing this letter in opposition to Senate Bill 66 which proposes to license naturopathic physicians.

First of all, let me make it very clear that I do not oppose this legislation based on the fact that naturopaths represent competition. Fortunately, naturopaths are few in number, and most of the public are not gullible enough to believe in their far-fetched therapies that they offer, and therefore, it is not a competitive threat at all.

It is, however, a threat to the public health, and I oppose it on that basis.

Medical doctors and osteopathic doctors all go through four years of credited medical school. That means that they participate in a program that is certified by a national certifying agency. The naturopaths themselves cannot decide what training or education is adequate and, therefore, have no standardized educational or training requirements.

Furthermore, licensed physicians, after receiving the medical or osteopathic degree, go on to post-graduate training through internships and residencies. This requires three to seven years of further training. All of us in the profession of medicine realize that after four years of classroom and limited clinical experience, we are not close to being ready to apply what we have learned to the actual practice of medicine. Naturopaths have no requirements for any kind of post-graduate training where their abilities to actually practice and observe are evaluated. It is a requirement for physicians to get licensed to show that they have had this training, and this should be a basic tenant of any kind of licensing act.

The Naturopath Licensing Act as is outlined in Senate Bill 66 basically gives naturopaths the license to practice just as any allopathic physician in this state can practice. If this legislation is passes by the legislature, it will show that the legislature is irresponsibly deviating from its own guidelines regarding requirements for the practice of medicine.

I would ask that you review the requirements that are necessary to be licensed as a physician in this state before you consider this legislation and then give it a do not pass recommendation.

Furthermore, the National Council on Consumer Fraud in Healthcare has as one of its primary goals exposing the fraudulent practices

Ex. 13
2-6-91
SB 66

offered by naturopaths. Much of what they do is completely untested in any scientific way, and looking at some of the things they treat and their methods of treatment makes me concerned from a medical, scientific viewpoint. Many of the medications for which they seek approval for prescribing are highly potent, potentially toxic chemicals that require more than an idea of the proper dosing regimen to properly prescribe them. Furthermore, naturopaths will dispense these from their offices since they don't have pharmaceutical prescriptive privileges. It is unethical for an allopathic physician to prescribe medications from his own offices because of the fear of unnecessarily prescribing. This legislation opens the door for naturopaths to actually encourage them to do this.

Finally, it has been said by some legislators that since the naturopaths are already practicing medicine and are going to practice no matter what we do, that we should legalize it. I think that logic is quite flawed because if we follow that type of logic, we should legalize all legal drugs, not worry about drunken drivers, and not worry about licensing any other profession in the state because no matter what laws we pass, some people are going to ignore these laws.

In summary, I think that there are several reasons this legislation is seriously flawed, and I would encourage your rejection of this legislation.

Sincerely,

R.D. Marks, M.D.

HOUSE OF REPRESENTATIVES
VISITOR'S REGISTER

Human Services & Aging COMMITTEE BILL NO. SB 66

DATE 2-6-91 SPONSOR(S) Sen. Halligan

PLEASE PRINT PLEASE PRINT PLEASE PRINT

NAME AND ADDRESS	REPRESENTING	SUPPORT	OPPOSE
3287 S. 4th W. Mssla MT 59801 TAMMARA L. Smith	Self	✓	
CHRISTINE BAUTISTA 226 SPRUCE DRIVE KALISPELL, MT 59901	SELF	✓	
Kathee Dunham 520 Agency Rd Arlee MT 59821	self	✓	
Margaret Vance 417 Beverly - Mssla, MT 59801	Self	✓	
DAVID GRAY 136 E Broadway Miss MT 59802	Self	✓	✓
Michael H. Bardis, D.C 950 N Montana, Helena MT	MCA	✓	
Michael A. Anderson DE 1442 S 1st W Missoula MT			
Mary A. Musil 556 Sparta, Helena, MT	self		✓
Printer Bowler Big Fork, MT	myself + many friends	✓	
Mike Stepler Helena	MT Nurses Assn.		✓
Judith Carlson	MANP	X	
EDWARD P. BERGIN SIDNEY	MMA		✓
Jerome T Loendorf	MT. Med Assn		✓
Brian Ellis	MT. Medical Assn		X

PLEASE LEAVE PREPARED TESTIMONY WITH SECRETARY. WITNESS STATEMENT FORMS ARE AVAILABLE IF YOU CARE TO SUBMIT WRITTEN TESTIMONY.

HOUSE OF REPRESENTATIVES
VISITOR'S REGISTER

_____ COMMITTEE BILL NO. SB 66

DATE _____ SPONSOR(S) _____

PLEASE PRINT **PLEASE PRINT** **PLEASE PRINT**

NAME AND ADDRESS	REPRESENTING	SUPPORT	OPPOSE
Allen Ligdah	self	✓	
Jody Manning	self	✓	
Katy Delaney	self		✓
Ted J. Dorey	Mt. Assn. of Naturopathic Physicians	✓	
Steve Huntington	Dietetic Association		✓
Martha F. Bugni	self	✓	
Mary Strandberg	self	✓	
Roger Tippy	Mt State Pharmaceutical Assoc.		✓
Nancy O'Neil	self		✓
DO Dowd	self		✓
Laurie J Sulo	self		X
1974 Broadway Great Falls Susan Larson	MDA		✓
Leslie Pierson 3885 Kaola Dr, Helena	MDA		✓
John Delano			✓

PLEASE LEAVE PREPARED TESTIMONY WITH SECRETARY. WITNESS STATEMENT FORMS ARE AVAILABLE IF YOU CARE TO SUBMIT WRITTEN TESTIMONY.

HOUSE OF REPRESENTATIVES
VISITOR'S REGISTER

Human Services & Aging **COMMITTEE** **BILL NO.** SB 66

DATE 2-6-91 **SPONSOR(S)** Sen. Halligan

PLEASE PRINT **PLEASE PRINT** **PLEASE PRINT**

NAME AND ADDRESS	REPRESENTING	SUPPORT	OPPOSE
Jerome A. Kessler Sidney MT	self		✓
John Gregory Billings	"		✓
MICHAEL Bergkamp Helena	MANP	✓	
Patricia Murphy Box 7095, Missoula, MT.	self	✓	
Laurie Jones	Self	✓	
John P. Jones	Self.	✓	
Mary Werner Brown 418 E Spruce Mcla	"	✓	
Jeannine Fläten 1339 River St. Missoula, MT.	Self	✓	
Gary Dale 554 W Broadway MSLA	Self		
Phyllis Lefohn Box 196, Clinton, MT 59834	self	✓	
Judy Hoyer	self		✓
Nancy Dunne 218 E Front Missoula	MANP	✓	
Nancy Aagenes Butte	MANP	✓	
Linda Lewis - Helena	MT Dietetic Assn		✓

PLEASE LEAVE PREPARED TESTIMONY WITH SECRETARY. WITNESS STATEMENT FORMS ARE AVAILABLE IF YOU CARE TO SUBMIT WRITTEN TESTIMONY.

HOUSE OF REPRESENTATIVES
VISITOR'S REGISTER

COMMITTEE BILL NO. SB 66

DATE 2-6-91 SPONSOR(S)

PLEASE PRINT PLEASE PRINT PLEASE PRINT

NAME AND ADDRESS	REPRESENTING	SUPPORT	OPPOSE
Debbie Ramsey	MDA		✓
Deb Byorness	MDA		X
Patricia A. Heninessey	Self		X

PLEASE LEAVE PREPARED TESTIMONY WITH SECRETARY. WITNESS STATEMENT FORMS ARE AVAILABLE IF YOU CARE TO SUBMIT WRITTEN TESTIMONY.

HOUSE OF REPRESENTATIVES
VISITOR'S REGISTER

Human Services & Aging COMMITTEE BILL NO. HB 429

DATE 2-6-91 SPONSOR(S) Rep. Kasten

PLEASE PRINT PLEASE PRINT PLEASE PRINT

NAME AND ADDRESS	REPRESENTING	SUPPORT	OPPOSE
~~DP Director, Helena~~	~~DPHE~~	~~✓~~	
Dan Russell	Inst/Correctional Div	✓	
Todd Schlapfer 162 Lakehills Big Fork	MANP	✓	

PLEASE LEAVE PREPARED TESTIMONY WITH SECRETARY. WITNESS STATEMENT FORMS ARE AVAILABLE IF YOU CARE TO SUBMIT WRITTEN TESTIMONY.

HOUSE OF REPRESENTATIVES
VISITOR'S REGISTER

Human Services & Aging COMMITTEE BILL NO. HB 468

DATE 2-6-91 SPONSOR(S) Rep. Thomas Lee

PLEASE PRINT PLEASE PRINT PLEASE PRINT

NAME AND ADDRESS	REPRESENTING	SUPPORT	OPPOSE
JOHN DONWEN	SRS	/	

PLEASE LEAVE PREPARED TESTIMONY WITH SECRETARY. WITNESS STATEMENT FORMS ARE AVAILABLE IF YOU CARE TO SUBMIT WRITTEN TESTIMONY.