HB

661

Alaska State Legislature

P. O. BOX V
JUNEAU, ALASKA 99811
(907) 465-2828

DISTRICT 10
2600 Denali; Suite 501
ANCHORAGE, ALASKA 99503
(907) 276-7943

MEMBER
Labor and Commerce
State Affairs
Special Committee on
Telecommunications
Finance Sub-Committee

Minority Whip

Representative Virginia M. Collins

April 7, 1986

Representative Max Gruenberg
Capitol / Room 114

Dear Max:

Thank you for your offer of support on HB661, Head Injury legislation. I'm forwarding the information packet you requested including correspondence from Commissioner Pugh on HB661.

Max, I'm looking forward to working with you on this and really appreciate your interest and support.

If I can be of further assistance, please contact me at 2828.

Sincerely,

Representative Virginia Collins

IN THE HOUSE BY COLLINS

HOUSE BILL NO. 661

IN THE LEGISLATURE OF THE STATE OF ALASKA

FOURTEENTH LEGISLATURE - SECOND SESSION

A BILL

For an Act entitled: "An Act creating the Advisory Council on Head-Injure Persons; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* Section 1. AS 44.29 is amended by adding new sections to read:

ARTICLE 3. ADVISORY COUNCIL ON HEAD-INJURED PERSONS.

Sec. 44.29.160. ADVISORY COUNCIL ON HEAD-INJURED PERSONS. There is established in the Department of Health and Social Services a Advisory Council on Head-Injured Persons.

Sec. 44.29.170. COMPOSITION. The advisory council consists o seven members, broadly representative of medical and social service fields, who are known for their experience or interest in head in juries. Members shall be appointed by the governor.

Sec. 44.29.180. TERM OF OFFICE. (a) Members of the advisor council serve staggered terms of three years.

(b) A vacancy occurring in the membership of the advisory coun cil shall be filled by appointment for the unexpired portion of th term.

(c) Advisory council members serve at the pleasure of the gover nor.

(d) The governor shall repla-e advisory council mem'ers who b poor attendance or lack of contribution to the council's work demon strate their ineffectiveness as board members.

Sec. 44.29.190. COMPENSATION, PER DIEM, AND EXPENSES. Member of the advisory council are not entitled to a salary, but are entitle

to per diem, reimbursement for travel, and other expenses authorized by law for boards and commissions under AS 39.20.180.

Sec. 44.29.200. DUTIES. The advisory council shall act in an advisory capacity to the commissioner of health and social services in the following matters:

(1) special problems affecting mental health that head injuries may present;

(2) educational research and public informational activities conducted by the Department of Health and Social Services and others in respect to the problems presented by head injuries; and

(3) social problems that affect rehabilitation of head-injured persons.

Sec. 44.29.210. DEFINITION. In AS 44.29.160 - 44.29.210 "advisory council" means Advisory Council on Head-Injured Persons.

* Sec. 2. This Act takes effect June 30, 1986.

San Francisco, a three-year pilot project established pursuant to former Chapter 4 (commencing with Section 4330), has demonstrated that the most successful, cost-effective service model is one which allows a nonprofit community agency to provide a full array of support services to families that have a member who suffers from a brain impairment. This agency provides direct services, coordinates existing resources, and assists in the development of new programs and services on a regional basis.

(i) That respite care services provide a combination of time-limited, in-home, and out-of-home services which significantly decrease the stress of family members and increase their ability to maintain a brain-impaired person at home at less cost than other alternatives. This ability is further increased when complemented by case planning, care training, and other support services for family members.

(j) That, since 1977, the State Department of Mental Health has attempted to identify service gaps and determine a cost-effective, feasible approach to funding and providing services to brain-damaged adults, their families, and caregivers. That department has the experience of offering more in the continuum of programs and services than any other state agency and is willing to continue in the lead state agency capacity.

(k) That providing services to brain-impaired adults, and to their families and caregivers, requires the coordinated services of many state departments and community agencies to ensure that no gaps occur in communication, in the availability of programs, or in the provision of services. Although the services may include mental health interventions, they cannot be met solely by services of the State Department of Mental Health.

4331. As used in this chapter:

(a) "Brain damage," "degenerative brain diseases," and "brain impairment" mean significant destruction of brain tissue with resultant loss of brain function. Examples of causes of the impairments are Alzheimer's disease, stroke, traumatic brain injury, and other impairments described in subdivision (f) of Section 4330.

(b) "Brain-impaired adult" means a person whose brain impairment has occurred after the age of 18.

(c) "Respite care" means time-limited substitute care or supervision in support of the caregiver for the purposes of providing relief from the stresses of constant care provision and so as to enable the caregiver to pursue a normal routine and responsibilities. Respite care may be provided in the home or in an out-of-home setting, such as day care centers or short-term placements in inpatient facilities.

4332. The director shall administer this chapter and establish standards and procedures, as the director deems necessary in carrying out the provisions of this chapter. The standards and procedures are not required to be adopted as regulations pursuant to the Administrative Procedure Act (Chapter 3.5 (commencing

CHAPTER 1658

An act to repeal and add Chapter 4 (commencing with Section 4330) of Part 2 of Division 4 of the Welfare and Institutions Code, relating to mental health, making an appropriation therefor, and declaring the urgency thereof, to take effect immediately.

[Approved by Governor September 30, 1984. Filed with Secretary of State September 30, 1984.]

LEGISLATIVE COUNSEL'S DIGEST

AB 2913, Agnos. Mental health.

Under existing law, the Director of Mental Health is required to establish a pilot project for brain-damaged persons for one year to be conducted by contract with an appropriate nonprofit community agency.

This bill instead would require the director to contract with a nonprofit community agency meeting certain requirements to act as the Statewide Resources Consultant and to also contract with nonprofit community resource agencies to establish regionally based resource centers to provide specified services to brain-impaired adults.

This bill would appropriate $1,700,000 for the 1984–85 fiscal year for the purpose of the bill.

This bill would take effect immediately as an urgency statute.

Appropriation: yes.

The people of the State of California do enact as follows:

SECTION 1. Chapter 4 (commencing with Section 4330) of Part 2 of Division 4 of the Welfare and Institutions Code is repealed.

SEC. 2. Chapter 4 (commencing with Section 4330) is added to Part 2 of Division 4 of the Welfare and Institutions Code, to read:

CHAPTER 4. SERVICES FOR PERSONS WITH BRAIN DAMAGE OR DEGENERATIVE BRAIN DISEASE

4330. The Legislature finds all of the following:

(a) That state public policy discriminates against adults with brain damage or degenerative brain disease, such as Alzheimer's disease, hereinafter called "brain impairments."

(b) That the Legislature has declared state public policy and accepted responsibility to ensure that persons under the age of 18 years who are "developmentally disabled" pursuant to Division 4.5 (commencing with Section 4500), receive services necessary to meet their needs, which are often similar to those of persons who suffer

from brain impairments.

(c) That persons over the age of 18 who sustain brain impairment have a variety of program and service needs for which there is no clearly defined, ultimate responsibility vested in any single state agency and for which there are currently a number of different programs attempting to meet their needs.

(d) That the lack of clearly defined, ultimate responsibility has resulted in severe financial liability and physical and mental strain on brain-impaired persons, their families, and caregivers.

(e) That terminology and nomenclature used to describe brain impairments are varied and confusing, in part because of different medical diagnoses and professional opinions, as well as differences in terminology used by the various funding sources for programs and services. Uniformity is required in order to ensure that appropriate programs and services are available throughout the state to serve these persons.

(f) That the term "brain damage" covers a wide range of organic and neurological disorders, and that these disorders, as identified below, are not necessarily to be construed as mental illnesses. These disorders include, but are not limited to, all of the following:

(1) Progressive, degenerative, and dementing illnesses, including, but not limited to, presenile and senile dementias, Alzheimer's disease, multiinfarct disease, Pick's disease, and Kreutzfeldt-Jakob's disease.

(2) Degenerative diseases of the central nervous system that can lead to dementia or severe brain impairment, including, but not limited to, epilepsy, multiple sclerosis, Parkinson's disease, amyotrophic lateral sclerosis (ALS), and hereditary diseases such as Huntington's disease.

(3) Permanent damage caused by cerebrovascular accidents more commonly referred to as "strokes," including, but not limited to, cerebral hemorrhage, aneurysm, and embolism.

(4) Posttraumatic, postanoxic, and postinfectious damage caused by incidents, including, but not limited to, coma, accidental skull and closed head injuries, loss of oxygen (anoxia), and infections such as encephalitis, herpes simplex, and tuberculosis.

(5) Permanent brain damage or temporary or progressive dementia as a result of tumors (neoplasm), hydrocephalus, abscesses, seizures, substance toxicity, and other disorders.

(g) That brain damage frequently results in functional impairments that adversely affect personality, behavior, and ability to perform daily activities. These impairments cause dependency on others for care and decisionmaking. The manifestations of brain damage include impairments of memory, cognitive ability, orientation, judgment, emotional response, and social inhibition. Brain damage can strike anyone regardless of age, race, sex, occupation, or economic status.

(h) That Family Survival Project for Brain-Damaged Adults of

San Francisco, a three-year pilot project established pursuant to former Chapter 4 (commencing with Section 4330), has demonstrated that the most successful, cost-effective service model is one which allows a nonprofit community agency to provide a full array of support services to families that have a member who suffers from a brain impairment. This agency provides direct services, coordinates existing resources, and assists in the development of new programs and services on a regional basis.

(i) That respite care services provide a combination of time-limited, in-home, and out-of-home services which significantly decrease the stress of family members and increase their ability to maintain a brain-impaired person at home at less cost than other alternatives. This ability is further increased when complemented by case planning, care training, and other support services for family members.

(j) That, since 1977, the State Department of Mental Health has attempted to identify service gaps and determine a cost-effective, feasible approach to funding and providing services to brain-damaged adults, their families, and caregivers. That department has the experience of offering more in the continuum of programs and services than any other state agency and is willing to continue in the lead state agency capacity.

(k) That providing services to brain-impaired adults, and to their families and caregivers, requires the coordinated services of many state departments and community agencies to ensure that no gaps occur in communication, in the availability of programs, or in the provision of services. Although the services may include mental health interventions, they cannot be met solely by services of the State Department of Mental Health.

4331. As used in this chapter:

(a) "Brain damage," "degenerative brain diseases," and "brain impairment" mean significant destruction of brain tissue with resultant loss of brain function. Examples of causes of the impairments are Alzheimer's disease, stroke, traumatic brain injury, and other impairments described in subdivision (f) of Section 4330.

(b) "Brain-impaired adult" means a person whose brain impairment has occurred after the age of 18.

(c) "Respite care" means time-limited substitute care or supervision in support of the caregiver for the purposes of providing relief from the stresses of constant care provision and so as to enable the caregiver to pursue a normal routine and responsibilities. Respite care may be provided in the home or in an out-of-home setting, such as day care centers or short-term placements in inpatient facilities.

4332. The director shall administer this chapter and establish standards and procedures, as the director deems necessary in carrying out the provisions of this chapter. The standards and procedures are not required to be adopted as regulations pursuant to the Administrative Procedure Act (Chapter 3.5 (commencing

with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code).

4333. The director shall do both of the following:

(a) Contract with a nonprofit community agency meeting the requirements of this chapter to act as the Statewide Resources Consultant, to be selected through a bid procedure.

(b) With the advice of the Statewide Resources Consultant and within four years from the effective date of this chapter, contract with nonprofit community resource agencies, selected in a manner determined by the director, to establish regionally based resource centers in order to ensure the existence of an array of appropriate programs and services for brain-impaired adults. The resource center shall place a high priority on utilizing community resources in creating opportunities for families to maintain a brain-impaired adult at home when possible and in other community-based alternatives when necessary.

4334. The Statewide Resources Consultant shall do all of the following:

(a) Serve as the centralized information and technical assistance clearinghouse for brain-impaired adults, their families, caregivers, service professionals and agencies, and volunteer organizations.

(b) Work closely and coordinate with organizations serving brain-impaired adults, their families, and caregivers in order to ensure, consistent with requirements for quality of services as may be established by the director, that the greatest number of persons are served and that the optimal number of organizations participate.

(c) Develop training packages which are appropriate for a variety of persons, including, but not limited to, all of the following:

(1) Families.

(2) Caregivers and service professionals involved with brain-impaired adults.

(3) Advocacy and self-help family and caregiver support organizations.

(4) Educational institutions.

(d) Provide service and program development consultation to resource centers and to identify funding sources which are available.

(e) Assist the appropriate state agencies in identifying and securing increased federal financial participation and third party reimbursement, including, but not limited to, Title XVIII (42 U.S.C. Sec. 1395 et seq.) and Title XIX (42 U.S.C. Sec. 1396 et seq.) of the federal Social Security Act.

(f) Conduct public social policy research based upon the recommendations of the Director of Mental Health.

(g) Assist the director, as the director may require, in conducting directly, or through contract, research in brain damage epidemiology and data collection, and in developing a uniform terminology and nomenclature.

(h) Assist the director in establishing criteria for, and in selecting

resource centers and in designing a methodology for, the consistent assessment of resources and needs within the geographic areas to be serviced by the resource centers.

(i) Conduct conferences, as required by the director, for families, caregivers, service providers, advocacy organizations, and educational institutions in order to enhance the quality and availability of high-quality, low-cost care and treatment of brain-impaired adults.

4335. In choosing an appropriate nonprofit community agency to act as the Statewide Resources Consultant, the director shall give priority to an agency which meets both of the following:

(a) An agency which has a proven record of experience in providing information, technical assistance and direct services to adults with all types of brain impairments, their families, and caregivers.

(b) An agency which includes family members and caregivers of brain-impaired adults on its board of directors.

4336. (a) The Statewide Resources Consultant shall submit progress reports on its activities as required by the director. These reports shall include, but not be limited to, a summary and evaluation of the activities of the resource centers. Client, caregiver, service, and cost data shall be provided for each operating resource center.

(b) The department, in consultation with the Statewide Resources Consultant, shall report to the Legislature by annually on the effectiveness of the resource centers. The report shall be submitted within three months after the end of each calendar year. The evaluation shall include, but not be limited to, all of the following:

(1) A comparative assessment of the costs and effectiveness of each type of service or combinations of services provided.

(2) An assessment of the nature and extent of the demand for services which provide respite, and an evaluation of their success in meeting this demand.

(3) An analysis of the effectiveness of the program in deterring the institutionalization of brain-impaired adults, allowing caregivers to maintain a normal routine, and promoting the continuance of quality care for brain-impaired adults.

(4) Recommendations for ensuring that unmet needs of brain-impaired persons and their families are identified and addressed with appropriate programs and services.

4337. The resource centers shall serve all of the following functions:

(a) Provide directly or assist families in securing information, advice, and referral services, legal services and financial consultation, planning and problem-solving consultation, family support services, and respite care services, as specified in Section 4338.

(b) Provide centralized access to information about, and referrals to, local, state, and federal services and programs in order to assure

a comprehensive approach for brain-impaired adults, their families, and caregivers. Nothing in this chapter shall prohibit access to services through other organizations which provide similar programs and services to brain-impaired adults and their families, nor shall other organizations be prevented from providing these programs and services.

(c) Assist in the identification and documentation of service needs and the development of necessary programs and services to meet the needs of brain-impaired adults in the geographic area.

(d) Cooperate with the Statewide Resources Consultant and the Director of Mental Health in any activities which they deem necessary for the proper implementation of this chapter.

(e) Work closely and coordinate with organizations serving brain-impaired adults, their families, and caregivers in order to ensure, consistent with requirements for quality of services as may be established by the director, that the greatest number of persons are served and that the optimal number of organizations participate.

4338. Agencies designated as resource centers by the director after consultation with the Statewide Resources Consultant shall include in their governing or advisory boards, or both, as required by the director, persons who are representative of the ethnic and socioeconomic character of the area served and the client groups served in the geographic area.

Criteria to be used in selecting resource centers shall include, but not be limited to, the following:

(a) Fiscal stability and sound financial management, including the capability of successful fundraising.

(b) Ability to obtain community support for designation as a resource center with the region recommended by the director.

(c) Demonstrated ability to carry out the functions specified in Section 4337, particularly in delivering necessary programs and services to brain-impaired adults as defined in subdivision (c) of Section 4330.

4338.5. Resource centers shall carry out the functions specified in Section 4337 through the administration and provision of programs and services that reflect the most progressive care and treatment alternatives available for brain-impaired adults, their families, and caregivers. These programs and services may be provided directly or through the establishment of subcontracts as specified in their contract and within the limitations imposed by budget appropriations. The department shall make efforts to achieve a goal that not less than 90 percent of the funds appropriated through contracts with resource centers shall be utilized for direct services, including, but not limited to, the following:

(a) Information, advice, and referral and family support services, including, but not limited to, all of the following:

(1) Information and counseling about diagnostic procedures and resources.

(2) Long-term care planning and consultation.

(3) Legal and financial resources, consultation, and representation.

(4) Mental health interventions.

(5) Caregiving techniques.

(b) Respite care services through the flexible and creative use of existing local resources, including, but not limited to, all of the following:

(1) In-home care.

(2) Adult day health and social day care services.

(3) Foster and group care.

(4) Temporary placement in a community or health facility.

(5) Transportation.

(c) Training and education programs for brain-impaired adults, their family members, caregivers, and service providers that will lead to the high-quality, low-cost care and treatment of service clients.

4339. The director shall establish criteria for client eligibility, including financial liability, pursuant to Section 4339.5. However, persons eligible for services provided by regional centers or the State Department of Developmental Services are not eligible for services provided under this chapter. Income shall not be the sole basis for client eligibility. The director shall assume responsibility for the coordination of existing funds and services for brain-impaired adults, and for the purchase of respite care services, as defined in subdivision (c) of Section 4331 and described in subdivision (b) of Section 4336, with other departments that may serve brain-impaired adults, including the Department of Rehabilitation, the State Department of Health Services, the State Department of Social Services, the State Department of Developmental Services, the Department of Aging, and the State Department of Alcohol and Drug Abuse.

4339.5. Persons receiving services pursuant to this chapter may be required to contribute to the cost of services depending upon their ability to pay, but not to exceed the actual cost thereof. The criteria for determining client contributions which may be paid to the resource center under this chapter and standards for their utilization by the resource center in developing new programs and services shall be determined by the director after consultation with the Statewide Resources Consultant.

4339.6. In considering total service funds available for the project, the director shall utilize funding available from appropriate state departments, including, but not limited to: the State Department of Health Services, the State Department of Social Services, the Department of Rehabilitation, the Department of Aging, and the State Department of Alcohol and Drug Abuse. The director in conjunction with the Statewide Resources Consultant shall coordinate his or her activities with the implementation of the Torres-Felando Long-Term Care Reform Act (Chapter 1435,

Statutes of 1982) in order to further the goal of obtaining comprehensive, coordinated public policy and to maximize the availability of funding for programs and services for persons with brain impairments.

SEC. 3. The sum of one million seven hundred thousand dollars ($1,700,000) is hereby appropriated for the 1984–85 fiscal year from the General Fund to the State Department of Mental Health for the purposes of this act. Funding in subsequent years of programs under this act is subject to the annual appropriation of funds in the Budget Act.

SEC. 4. This act is an urgency statute necessary for the immediate preservation of the public peace, health, or safety within the meaning of Article IV of the Constitution and shall go into immediate effect. The facts constituting the necessity are:

In order that certain greatly needed services to brain-impaired adults may be provided at the earliest possible time, it is essential that this act go into immediate effect.

O

ALASKA TREATMENT CENTER

3710 E. 20th Avenue • Anchorage, AK 99508 • (907) 272-0586

HEAD INJURIES represent a serious health problem in the United States -- an estimated 7 MILLION head injuries occur in the U.S. annually.

Head Injuries are felt to be a significant problem in Alaska, given the fact that the accident rate in Alaska has been estimated to be 2 to 3 times the national average, with the rate 7 times the national average for the Native population.

The full extent of the problem of head injuries in Alaska is not known, because of the well-known geographic obstacles, and of a lack of systematic reporting of these injuries.

Most head injuries affect young persons -- the majority of victims are young males between the ages of 18 and 30. A head injury can affect a person's ability to walk and talk, their memory function, and personality and intellectual functioning. Persons who once functioned independently in society may become unable to hold a job, become dependent on family, and not unfrequently. become dependent on public assistance because of the impairments related to their head injury. Persons with head injuries may have the potential for living normal lifespans, thus the amount of public funds expended on these individuals over the course of their lives can be considerable.

Rehabilitation efforts for the head injured are being developed across the nation. Need for addressing the problems of the head injured has been recognized by many states. A few recent examples are listed below:

* COLORADO: The Colorado Division of Vocational Rehabilitation has funded 6 head injury vocational programs around the state with $200,000 in grant support.

* MASSACHUSETTS: A Statewide Head Injury Program (SHIP) of the Massachusetts Rehabilitation Commission was begun July 1,1985 with $2.1 million to fund pilot programs for the rehabilitation needs of the head injured.

* MISSOURI: The state legislature provided for an advisory council on head injury, a mandatory seat belt law, and $500,000 to the Division of Health to contract for rehabilitation services for the head injured.

* FLORIDA, NEW YORK, and VIRGINIA are among states which have mandated reporting of head injuries.

The National Head Injury Foundation (NHIF) has associated state chapters or support groups in all 50 states and the District of Columbia. In Alaska at the present time, a support group meets in Anchorage monthly. Head injured persons, family members and interested professionals comprise this ever-growing support group. The hopes are to eventually become a full chapter of the NHIF.

More information on this subject may be obtained from the National Head Injury Foundation at P.O. Box 567, Framingham, MA, 01701.

Information regarding services for the head injured in Alaska may be obtained from Paul Craig, PhD; or Shawn Hadley, M.D., c/o The Alaska Treatment Center.

Alaska State Legislature

P. O. BOX V
JUNEAU, ALASKA 99811
(907) 465-2828

DISTRICT 10
2600 Denali; Suite 501
ANCHORAGE, ALASKA 99503
(907) 276-7943

MEMBER
Labor and Commerce
State Affairs
Special Committee on
Telecommunications
Finance Sub-Committee

Minority Whip

Representative Virginia M. Collins

March 5, 1986

John R. Pugh, Commissioner
Department of Health & Social Services
Pouch H-01
Juneau, AK 99811

Dear Commissioner Pugh:

As you may recall, I met with you in January of this year for the purpose of discussing the issues relating to head injuries in the State of Alaska. My purpose in meeting with you at that time was to determine if there was a mechanism at the present time within the Department of Health and Social Services to begin to identify the number of head-injured people in the State of Alaska and to address their needs. At that time, you indicated to me that there was presently no mechanism within the Department of Health and Social Services to adequately address this issue and this need. I indicated to you at the time that I was not interested in establishing a new council and asked your opinion whether the medical advisory council could perform this function. Your indication to me at the time was that it could not. Finally, you indicated to me that you felt that the Department of Vocational Rehabilitation could handle this function.

Given our conversation, I was quite surprised to receive your Department's Position Paper on House Bill 661 prepared by Elizabeth Ward. (I should say surprised and amused.) In that Position Paper, Ms. Ward indicates that all of those things that I requested that you said were not available in Health and Social Services indeed are. In view of your position that the Department of Health and Social Services does not support House Bill 661 due to the increased costs associated with its mandates and that the Department feels that this activity can be achieved within the capabilities and budgets of existing advisory councils, I request that your Department prepare for me a detailed plan of how you plan to address these things that I brought to your attention. I would appreciate having this in my office no later than March 30.

Thank you. Your immediate attention would be greatly appreciated.

Sincerely,

Representative Virginia M. Collins

POSITION PAPER/Department of Health & Social Services

POSITION PAPER

HOUSE BILL 661

"An Act creating the Advisory Council on Head Injured Persons and providing for an effective date."

This Bill mandates the establishment of an Advisory Council to the Commissioner of the Department of Health and Social Services for the purpose of addressing the social, mental health, research and education issues associated with head injuries. The seven member advisory council will be appointed by the governor to represent the medical and social services fields for terms of three years. Council members will not receive salaries while serving in advisory capacity, but will be reimbursed for travel, per diem and other expenses authorized for boards and commisssions.

While the department supports the intentions of providing an enhanced focus on the problems of head injuries in Alaska, the establishment of a separate advisory council for this sole purpose will lead to increased expense and fragmentation of services. Currently the Department has two councils that can adequately advise the Commissioner regarding this problem. The Governors Council on the Handicapped and Gifted, and the Medical Care Advisory Council have staff and operating funds which could be utilized to address the issues of head injuries.

Position

The Department of Health and Social Services does not support HB 661 due to the increased cost associated with its mandates. The department does support an enhanced focus on head injuries, but feels that this activity can be achieved within the capabilities and budgets of existing advisory councils.

Recommended by: Elizabeth Ward

Elizabeth Ward, M.N.
Director
Divsion of Public Health

Date: 2/24/86

Approved by: John R. Pugh

John R. Pugh, Commissioner
Department of Health
and Social Services

Date: 2/28/86

STATE OF ALASKA 1986 LEGISLATIVE SESSION
FISCAL NOTE

Revision Date : _____

REQUEST

Bill/Resolution No. : HB 661
Title : "An Act Creating the Advisory Council on Head Injured Persons"

Sponsor : Rep. Collins
Requestor : State Affairs
Date of Request : Feb. 17, 1986

FISCAL DETAIL

Agency Affected : Health & Social Services
BRU : DHSS Administrative Support

Components : Govenor's Council on the Handicarped and Gifted

EXPENDITURES/REVENUES : (Thousands of Dollars)

OPERATING	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91
PERSONAL SERVICES		39.3	48.4	49.9	51.4	52.9
TRAVEL		15.6	10.3	10.6	10.9	11.2
CONTRACTUAL		67.9	4.0	4.2	4.3	4.4
SUPPLIES		5.5	.4	.4	.4	.4
EQUIPMENT		1.0	-0-	-0-	-0-	-0-
LAND & STRUCTURES		-0-	-0-	-0-	-0-	-0-
GRANTS, CLAIMS		-0-	-0-	-0-	-0-	-0-
MISCELLANEOUS		-0-	-0-	-0-	-0-	-0-
TOTAL OPERATING		129.3	63.1	65.1	67.0	68.9
CAPITAL						
REVENUE						

FUNDING : (Thousands of Dollars)

GENERAL FUND		129.3	63.1	65.1	67.0	68.9
FEDERAL FUNDS						
OTHER						
TOTAL		129.3	63.1	65.1	67.0	68.9

POSITIONS :

FULL-TIME		1.0	1.0	1.0	1.0	1.0
PART-TIME						
TEMPORARY						

ANALYSIS : Attach a separate page if necessary

Prepared by : Elizabeth Ward
Division : Division of Public Health
Phone : 465-3090
Date : 2/24/86

gcc

Approved by Commissioner : Jon R. Ong
Agency : Department of Health & Social Services
Date : 2/28/86

Distribution (by Agency preparing fiscal note) :
- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)

10/25/85

FISCAL NOTE ANALYSIS

HOUSE BILL NO. 661

"An Act creating the Advisory Council on Head-Injured Persons; and Providing for an Effective Date."

Assumptions
Not Applicable

Program Summary
HB 661 requires the establishment of a seven member advisory council for the Commssioner of Health and Social Services to address medical, social, mental, educational and research problems relating to head injuries. Implementation of this bill during FY 87 will require initial research into the prevalence of head injuries, and establishment of a council with permanent full time staff. The associated cost for the council and its functions will be:

Personnel:	Associate Coordinator, Juneau Range 18A, 10 months	$39,940
Travel:	6 Council meetings Anchorage & Juneau	5,000
	Staff travel for Council meetings, Interagency Coordination and information	5,000
	Head Injury Research	5,600
	Total	$15,600
Contracutal:	Medical Epidemiologist 4 months	$22,248
	Nurse Epidemiologist 4 months	13,852
	Computer Programmer 3 months	10,389
	Clerk Typist III 2 months	3,386
	Benefits	14,563
	Staff/Council Communication, Office, Printing	3,500
	Total	$67,938
Commodities:	Study supplies for computer and data entry	$5,000
	Staff/Council office supplies	450
	Total	$5,450
Equipment:	Staff Desk	400
	Desk Chair	250
	File Cabinet	150
	Office Chairs	200
	Total	$1,000
Total Cost		$129,500

The study will be conducted during the first year with the subsequent years costs being limited to the operational support of the council and staff.

Economic Impact
Not Applicable

Impact on Local Government
Not Applicable

STATE OF ALASKA
DEPT. OF HEALTH AND SOCIAL SERVICES

BILL SHEFFIELD, GOVERNOR

3601 "C" STREET, SUITE 540
POUCH 6333
ANCHORAGE, ALASKA 99502-0333

DIVISION OF PUBLIC HEALTH
EPIDEMIOLOGY OFFICE

EPIDEMIOLOGIC STUDY OF SPINAL CORD INJURIES/HEAD INJURIES IN ALASKA

PROPOSAL

John Middaugh, M.D.
State Epidemiologist
February 10, 1986

I. Introduction: No central source exists in Alaska to provide accurate information on the number of spinal cord/head injuries and descriptive information about the victims, circumstances of injury, and disability. Major effort will be required to obtain such information.

II. Proposal: Information will need to be gathered on all occurrences. Since spinal cord/head injuries may or may not be fatal, cause hospitalization, or result in permanent disability, numerous data sources will have to be explored.

1. Case Ascertainment: All traumatic injuries will have to be included, ranging from aircraft, motor vehicles, 3-wheeled ATVs, to falls, assault, suicide, and occupational injuries.

Death certificates, autopsy reports, hospital records, and financial payment records will need to be received to ascertain cases.

2. Case Definition: No single code or marker will identify cases for study. Numerous sources will have to be examined. Hospital records can be located by computer search using ICD codes. Once identified by computer search, each record will have to be reviewed and appropriate data extracted. The following ICD codes, as a minimum, will have to be searched:

Conditions	ICD Codes
Fracture of skull	800-804
Fracture of neck and trunk	805-809
Other paralytic syndromes	344
Intracranial Injury, laceration and contusion	851
Intracranial Injury, concussion	850
Intracranial Injury, subarachnoid, subdural and extradural hemorrhage	852
Intracranial injury, other	853-854

3. Descriptions: Data obtained will include demographic factors characterized according to time, place, and person. Data will be analyzed by pre-event occurrence, outcome, costs, and disability.

III. BUDGET

Personnel:	A medical epidemiologist will be required to oversee and direct the study. Four month full-time effort required equivalent.	$22,248	
	A nurse epidemiologist needed for four full-time months equivalent.	13,852	
	A computer programmer will be needed for three months, full-time equivalent.	10,389	
	A clerk-typist III will be needed for two months full-time equivalent	3,386	
		49,875	
		11,603	benefits
		2,960	health
		$64,438	
	Travel: Trips to Ketchikan (1) @ 3 days	692	
	Fairbanks (2) @ 3 days	984	
	Bethel (2) @ 3 days	1524	
	Juneau (4) @ 3 days	2368	
Supplies:	Computer discs, tapes, paper, data entry, key punching, forms (printing)	5,000	
		$75,006	TOTAL

IV. IMPLEMENTATION

Once funded, it will take 3-6 months to find qualified investigators and to obtain clearances required to obtain medical and financial data. It should be possible to complete a modest but accurate study in 12-18 months.

1.	POSITION TITLE				RANGE/STEP	BARG. UNIT	FORM 12 PAGE/LINE	GOV.	APPROV.	DISAPP.
	Associate Coordinator				18/A	GGU	N/A			
2.	TYPE OF POSITION	STAFF MONTHS	RP NUMBER	PCN NUMBER	BRU PRIORITY	LOCATION	ELECTION DISTRICT	LEG.		
	PFT	10	N/A	Vacant	N/A	AWA	4			

3.	CONTINUATION LEVEL	ADDITION

4.	TYPE OF EXPENDITURE		AMOUNT
	1	2	3
	PERSONAL SERVICES		
5.	Salary	$32,310	$32,310
6.	Benefits	2,522	2,522
7.	Supplemental Benefits	4,281	4,281
8.	Fixed Benefits	827	827
9.	TOTAL PERSONAL SERVICES 01		$39,940
10.	Travel 02		5,000
11.	Contractual 03		3,500
12.	Commodities 04		450
13.	Equipment 05		1,000
14.	Other		-0-
15.	TOTAL COST		$49,890

	RECEIPT CODE	FUNDING SOURCE	
16.		Federal Receipts 1002	
17.		G.F. Match 1003	
18.		General Funds 1004	$49,890
19.		I-A Receipts 1005	
20.		Program Receipts 1028	
21.		Other	

FOR B&H USE ONLY
4A KEY NUMBER __ __ - __ __ - __ __ - __ __ - __ __

JUSTIFICATION

House Bill No. 661 "An Act Creating the Advisory Council on Head Injured Persons; and Providing for an Effective Date", requires the establishment of a seven member council to advise the Commissioner of Health and Social Services regarding medical, mental health, social, educational and research problems regarding head injuries. In order to conduct these duties the council will require on going staff support to organize and prepare for council meetings; provide interagency coordination; information gathering and presentation; and follow-up on directives of the council. Such activities will require the abilities and expertise of an Associate Coordinator Range 18, to be stationed in Juneau.

13 REQUEST FOR NEW POSITION

01-1136 (7/82) - 13

AGENCY Health & Social Services

PROGRAM

BRU DHSS Administrative Support

COMPONENT Governor's Council/Handicapped & Gifted

Page of

Revised Date

FY 87

BILL SHEFFIELD, GOVERNOR

DEPT. OF HEALTH AND SOCIAL SERVICES

OFFICE OF THE COMMISSIONER

POUCH H 01
JUNEAU, ALASKA 99811
PHONE: 465-3030
Document No. 86-45

March 24, 1986

The Honorable Virginia M. Collins
Alaska State House
P.O. Box V
Juneau, AK 99811

Dear Representative Collins:

Thank you for your letter of March 5, 1986 regarding House Bill 661. I will attempt to clarify what was intended but apparently not well stated in our position paper.

I do not believe we need a separate council to address the problems of persons with head injuries in Alaska. Functions of advocacy, public education and some aspects of monitoring and coordination can be handled through existing boards and agencies such as the Governor's Council on the Handicapped and Gifted and the Division of Vocational Rehabilitation.

One of the things we cannot do, as I believe I indicated when we met, is produce information on the extent of the problems associated with head injury in Alaska. We have limited information as a by-product of other studies such as the all-terrain vehicle investigation. Mortality data could be extracted from death certificates. Perhaps some information on industrial accidents could be obtained from the Department of Labor and some idea of costs of acute and long term care could be obtained from sources such as Medicaid, Catastrophic Illness or General Relief Medical. However, if more precise information is needed on all head injuries, then special studies would be required as indicated in Dr. Middaugh's proposal which was attached to our position paper.

One possibility which would avoid the need for a council might be the convening of a small group of interested persons to pool their knowledge of the prevalence of head injuries and their sequelae, the treatment and rehabilitation needs of this group and the identifiable gaps in service. The deliberations of such a group could help determine assignment of priorities in a restrictive fiscal climate and future steps which are indicated. It might be possible to convene such a group during the interim.

If you would care to discuss this possibility, please let me know.

Sincerely,

John R. Pugh
Commissioner

POSITION PAPER/Department of Health & Social Services

POSITION PAPER

HOUSE BILL 661

"An Act creating the Advisory Council on Head Injured Persons and providing for an effective date."

This Bill mandates the establishment of an Advisory Council to the Commissioner of the Department of Health and Social Services for the purpose of addressing the social, mental health, research and education issues associated with head injuries. The seven member advisory council will be appointed by the governor to represent the medical and social services fields for terms of three years. Council members will not receive salaries while serving in advisory capacity, but will be reimbursed for travel, per diem and other expenses authorized for boards and commisssions.

While the department supports the intentions of providing an enhanced focus on the problems of head injuries in Alaska, the establishment of a separate advisory council for this sole purpose will lead to increased expense and fragmentation of services. Currently the Department has two councils that can adequately advise the Commissioner regarding this problem. The Governors Council on the Handicapped and Gifted, and the Medical Care Advisory Council have staff and operating funds which could be utilized to address the issues of head injuries.

Position

The Department of Health and Social Services does not support HB 661 due to the increased cost associated with its mandates. The department does support an enhanced focus on head injuries, but feels that this activity can be achieved within the capabilities and budgets of existing advisory councils.

Recommended by: Elizabeth Ward

Elizabeth Ward, M.N.
Director
Divsion of Public Health

Date: 2/24/86

Approved by: John R. Pugh

John R. Pugh, Commissioner
Department of Health
and Social Services

Date: 2/28/86

STATE OF ALASKA 1986 LEGISLATIVE SESSION
FISCAL NOTE

Revision Date : _____

REQUEST

Bill/Resolution No. : HB 661
Title : "An Act Creating the Advisory Council on Head Injured Persons"

Sponsor : Rep. Collins
Requestor : State Affairs
Date of Request : Feb. 17, 1986

FISCAL DETAIL

Agency Affected : Health & Social Services
BRU : DHSS Administrative Support

Components : Govenor's Council on the Handicapped and Gifted

EXPENDITURES/REVENUES : (Thousands of Dollars)

OPERATING	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91
PERSONAL SERVICES		39.3	48.4	49.9	51.4	52.9
TRAVEL		15.6	10.3	10.6	10.9	11.2
CONTRACTUAL		67.9	4.0	4.2	4.3	4.4
SUPPLIES		5.5	.4	.4	.4	.4
EQUIPMENT		1.0	-0-	-0-	-0-	-0-
LAND & STRUCTURES		-0-	-0-	-0-	-0-	-0-
GRANTS, CLAIMS		-0-	-0-	-0-	-0-	-0-
MISCELLANEOUS		-0-	-0-	-0-	-0-	-0-
TOTAL OPERATING		129.3	63.1	65.1	67.0	68.9
CAPITAL						
REVENUE						

FUNDING : (Thousands of Dollars)

GENERAL FUND		129.3	63.1	65.1	67.0	68.9
FEDERAL FUNDS						
OTHER						
TOTAL		129.3	63.1	65.1	67.0	68.9

POSITIONS :

FULL-TIME		1.0	1.0	1.0	1.0	1.0
PART-TIME						
TEMPORARY						

ANALYSIS : Attach a separate page if necessary

Prepared by : Elizabeth Ward
Division : Division of Public Health
Phone : 465-3090
Date : 2/24/86

gcc

Approved by Commissioner : Jan R. Ony
Agency : Department of Health & Social Services
Date : 2/28/86

Distribution (by Agency preparing fiscal note) :
- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)

10/25/85

FISCAL NOTE ANALYSIS

HOUSE BILL NO. 661

"An Act creating the Advisory Council on Head-Injured Persons; and Providing for an Effective Date."

Assumptions
Not Applicable

Program Summary
HB 661 requires the establishment of a seven member advisory council for the Commssioner of Health and Social Services to address medical, social, mental, educational and research problems relating to head injuries. Implementation of this bill during FY 87 will require initial research into the prevalence of head injuries, and establishment of a council with permanent full time staff. The associated cost for the council and its functions will be:

Personnel:	Associate Coordinator, Juneau Range 18A, 10 months	$39,940
Travel:	6 Council meetings Anchorage & Juneau	5,000
	Staff travel for Council meetings, Interagency Coordination and information	5,000
	Head Injury Research	5,600
	Total	$15,600
Contracutal:	Medical Epidemiologist 4 months	$22,248
	Nurse Epidemiologist 4 months	13,852
	Computer Programmer 3 months	10,389
	Clerk Typist III 2 months	3,386
	Benefits	14,563
	Staff/Council Communication, Office, Printing	3,500
	Total	$67,938
Commodities:	Study supplies for computer and data entry	$5,000
	Staff/Council office supplies	450
	Total	$5,450
Equipment:	Staff Desk	400
	Desk Chair	250
	File Cabinet	150
	Office Chairs	200
	Total	$1,000
Total Cost		$129,500

The study will be conducted during the first year with the subsequent years costs being limited to the operational support of the council and staff.

Economic Impact
Not Applicable

Impact on Local Government
Not Applicable

BILL SHEFFIELD, GOVERNOR

STATE OF ALASKA
DEPT. OF HEALTH AND SOCIAL SERVICES

3601 "C" STREET, SUITE 540
POUCH 6333
ANCHORAGE, ALASKA 99502-0333

DIVISION OF PUBLIC HEALTH
EPIDEMIOLOGY OFFICE

EPIDEMIOLOGIC STUDY OF SPINAL CORD INJURIES/HEAD INJURIES IN ALASKA

PROPOSAL

John Middaugh, M.D.
State Epidemiologist
February 10, 1986

I. Introduction: No central source exists in Alaska to provide accurate information on the number of spinal cord/head injuries and descriptive information about the victims, circumstances of injury, and disability. Major effort will be required to obtain such information.

II. Proposal: Information will need to be gathered on all occurrences. Since spinal cord/head injuries may or may not be fatal, cause hospitalization, or result in permanent disability, numerous data sources will have to be explored.

1. Case Ascertainment: All traumatic injuries will have to be included, ranging from aircraft, motor vehicles, 3-wheeled ATVs, to falls, assault, suicide, and occupational injuries.

Death certificates, autopsy reports, hospital records, and financial payment records will need to be received to ascertain cases.

2. Case Definition: No single code or marker will identify cases for study. Numerous sources will have to be examined. Hospital records can be located by computer search using ICD codes. Once identified by computer search, each record will have to be reviewed and appropriate data extracted. The following ICD codes, as a minimum, will have to be searched:

Conditions	ICD Codes
Fracture of skull	800-804
Fracture of neck and trunk	805-809
Other paralytic syndromes	344
Intracranial Injury, laceration and contusion	851
Intracranial Injury, concussion	850
Intracranial Injury, subarachnoid, subdural and extradural hemorrhage	852
Intracranial injury, other	853-854

3. Descriptions: Data obtained will include demographic factors characterized according to time, place, and person. Data will be analyzed by pre-event occurrence, outcome, costs, and disability.

III. BUDGET

Personnel:	A medical epidemiologist will be required to oversee and direct the study. Four month full-time effort required equivalent.	$22,248	
	A nurse epidemiologist needed for four full-time months equivalent.	13,852	
	A computer programmer will be needed for three months, full-time equivalent.	10,389	
	A clerk-typist III will be needed for two months full-time equivalent	3,386	
		49,875	
		11,603	benefits
		2,960	health
		$64,438	
	Travel: Trips to Ketchikan (1) @ 3 days	692	
	Fairbanks (2) @ 3 days	984	
	Bethel (2) @ 3 days	1524	
	Juneau (4) @ 3 days	2368	
Supplies:	Computer discs, tapes, paper, data entry, key punching, forms (printing)	5,000	
		$75,006	TOTAL

IV. IMPLEMENTATION

Once funded, it will take 3-6 months to find qualified investigators and to obtain clearances required to obtain medical and financial data. It should be possible to complete a modest but accurate study in 12-18 months.

1.	POSITION TITLE				RANGE/STEP	BARG. UNIT	FORM 12 PAGE/LINE	GOV.	APPROV.	DISAPP.
	Associate Coordinator				18/A	GGU	N/A			
2.	TYPE OF POSITION	STAFF MONTHS	RP NUMBER	PCN NUMBER	BRU PRIORITY	LOCATION	ELECTION DISTRICT	LEG.		
	PFT	10	N/A	Vacant	N/A	AWA	4			

3.	CONTINUATION LEVEL	ADDITION	
4.	TYPE OF EXPENDITURE		AMOUNT
	1	2	3
	PERSONAL SERVICES		
5.	Salary	$32,310	$32,310
6.	Benefits	2,522	2,522
7.	Supplemental Benefits	4,281	4,281
8.	Fixed Benefits	827	827
9.	TOTAL PERSONAL SERVICES	01	$39,940
10.	Travel	02	5,000
11.	Contractual	03	3,500
12.	Commodities	04	450
13.	Equipment	05	1,000
14.	Other		-0-
15.	TOTAL COST		$49,890

	RECEIPT CODE	FUNDING SOURCE		
16.		Federal Receipts	1002	
17.		G.F. Match	1003	
18.		General Funds	1004	$49,890
19.		I-A Receipts	1005	
20.		Program Receipts	1028	
21.		Other		

FOR OMB USE ONLY
4A KEY NUMBER __ __ - __ __ - __ __ - __ __ - __ __

JUSTIFICATION

House Bill No. 661 "An Act Creating the Advisory Council on Head Injured Persons; and Providing for an Effective Date", requires the establishment of a seven member council to advise the Commissioner of Health and Social Services regarding medical, mental health, social, educational and research problems regarding head injuries. In order to conduct these duties the council will require on going staff support to organize and prepare for council meetings; provide interagency coordination; information gathering and presentation; and follow-up on directives of the council. Such activities will require the abilities and expertise of an Associate Coordinator Range 18, to be stationed in Juneau.

13 REQUEST FOR NEW POSITION

AGENCY Health & Social Services

PROGRAM

BRU DHSS Administrative Support

COMPONENT Governor's Council/Handicapped & Gifted

Page of

Revised Date

FY 87

01-1136 (7/82) - 13

BILL = HB661
ROOT = HB0661

BILL ROOT:
HB0661

BILL NUMBER:
HB661

INTRODUCED:
2/17/86

REFERRED: State Affairs,
Health, Education & Social
Services and Finance

ORIG SPONSOR:
BY COLLINS

BILL HEADING:
IN THE HOUSE

HOUSE BILL NO. 661
IN THE LEGISLATURE OF THE STATE OF ALASKA
FOURTEENTH LEGISLATURE - SECOND SESSION
A BILL

TITLE: For an Act entitled:

"An Act creating the Advisory Council on Head-Injured Persons; and providing for an effective date."

TEXT: BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* Section 1. AS 44.29 is amended by adding new sections to read:

ARTICLE 3. ADVISORY COUNCIL ON HEAD-INJURED PERSONS.

Sec. 44.29.160. ADVISORY COUNCIL ON HEAD-INJURED PERSONS. There is established in the Department of Health and Social Services an Advisory Council on Head-Injured Persons.

Sec. 44.29.170. COMPOSITION. The advisory council consists of seven members, broadly representative of medical and social services fields, who are known for their experience or interest in head injuries. Members shall be appointed by the governor.

Sec. 44.29.180. TERM OF OFFICE. (a) Members of the advisory council serve staggered terms of three years.

(b) A vacancy occurring in the membership of the advisory council shall be filled by appointment for the

unexpired portion of the term.

(c) Advisory council members serve at the pleasure of the governor.

(d) The governor shall replace advisory council members who by poor attendance or lack of contribution to the council's work demonstrate their ineffectiveness as board members.

Sec. 44.29.190. COMPENSATION, PER DIEM, AND EXPENSES. Members of the advisory council are not entitled to a salary, but are entitled to per diem, reimbursement for travel, and other expenses authorized by law for boards and commissions under AS 39.20.180.

Sec. 44.29.200. DUTIES. The advisory council shall act in an advisory capacity to the commissioner of health and social services in the following matters:

( ) special problems affecting mental health that head injuries may present,

(2) educational research and public informational activities conducted by the Department of Health and Social Services and others in respect to the

problems presented by head injuries; and

(3) social problems that affect rehabilitation of head- injured persons.

Sec. 44.29.210. DEFINITION. In AS 44.29.160 - 44.29.210 "advisory council" means Advisory Council on Head-Injured Persons.

* Sec. 2. This Act takes effect June 30, 1986.

R0601 # END OF DOCUMENTS IN LIST - ENTER RETURN OR ANOTHER COMMAND.

BILL SHEFFIELD, GOVERNOR

DEPT. OF HEALTH AND SOCIAL SERVICES

OFFICE OF THE COMMISSIONER

POUCH H 01
JUNEAU, ALASKA 99811
PHONE: 465-3030

DOCUMENT #86-24

February 18, 1986

The Honorable Virginia Collins
Alaska House of Representatives
P.O. Box V
Juneau, Alaska 99811

Dear Representative Collins:

Dr. Middaugh has prepared, at your request, the attached proposal for conducting an epidemiological study of spinal cord/head injuries.

If you have questions or the need for additional information, please contact Elizabeth Ward, Director of Public Health.

Sincerely,

John R. Pugh
Commissioner

Enclosure

06-F38LH

BILL SHEFFIELD, GOVERNOR

DEPT. OF HEALTH AND SOCIAL SERVICES

3601 "C" STREET, SUITE 540
POUCH 6333
ANCHORAGE, ALASKA 99502-0333

DIVISION OF PUBLIC HEALTH
EPIDEMIOLOGY OFFICE

EPIDEMIOLOGIC STUDY OF SPINAL CORD INJURIES/HEAD INJURIES IN ALASKA

PROPOSAL

John Middaugh, M.D.
State Epidemiologist
February 10, 1986

I. Introduction: No central source exists in Alaska to provide accurate information on the number of spinal cord/head injuries and descriptive information about the victims, circumstances of injury, and disability. Major effort will be required to obtain such information.

II. Proposal: Information will need to be gathered on all occurrences. Since spinal cord/head injuries may or may not be fatal, cause hospitalization, or result in permanent disability, numerous data sources will have to be explored.

1. Case Ascertainment: All traumatic injuries will have to be included, ranging from aircraft, motor vehicles, 3-wheeled ATVs, to falls, assault, suicide, and occupational injuries.

Death certificates, autopsy reports, hospital records, and financial payment records will need to be received to ascertain cases.

2. Case Definition: No single code or marker will identify cases for study. Numerous sources will have to be examined. Hospital records can be located by computer search using ICD codes. Once identified by computer search, each record will have to be reviewed and appropriate data extracted. The following ICD codes, as a minimum, will have to be searched:

Conditions	ICD Codes
Fracture of skull	800-804
Fracture of neck and trunk	805-809
Other paralytic syndromes	344
Intracranial Injury, laceration and contusion	851
Intracranial Injury, concussion	850
Intracranial Injury, subarachnoid, subdural and extradural hemorrhage	852
Intracranial injury, other	853-854

3. Descriptions: Data obtained will include demographic factors characterized according to time, place, and person. Data will be analyzed by pre-event occurrence, outcome, costs, and disability.

III. BUDGET

Personnel:	A medical epidemiologist will be required to oversee and direct the study. Four month full-time effort required equivalent.	$22,248	
	A nurse epidemiologist needed for four full-time months equivalent.	13,852	
	A computer programmer will be needed for three months, full-time equivalent.	10,389	
	A clerk-typist III will be needed for two months full-time equivalent	3,386	
		49,875	
		11,603	benefits
		2,960	health
		$64,438	
	Travel: Trips to Ketchikan (1) @ 3 days	692	
	Fairbanks (2) @ 3 days	984	
	Bethel (2) @ 3 days	1524	
	Juneau (4) @ 3 days	2368	
Supplies:	Computer discs, tapes, paper, data entry, key punching, forms (printing)	5,000	
		$75,006	TOTAL

IV. IMPLEMENTATION

Once funded, it will take 3-6 months to find qualified investigators and to obtain clearances required to obtain medical and financial data. It should be possible to complete a modest but accurate study in 12-18 months.

Alaska State Legislature

POUCH V
JUNEAU, ALASKA 99811
(907) 465-1818

DISTRICT 10
2600 Denali; Suite 501
ANCHORAGE, ALASKA 99503
(907) 276-7943

MEMBER
Labor and Commerce
State Affairs
Special Committee on
Telecommunications

Minority Whip

Representative Virginia M. Collins

February 26, 1986

Dr. Shawn Hadley
Alaska Treatment Center
3710 E. 20th Avenue
Anchorage, AK 99508

Dear Dr. Hadley:

Representative Collins asked that I send you the attached information. Would you please review it and return your comments on it to her?

Thanks for your help on this.

Linda

Linda Gammill
Secretary

BILL SHEFFIELD, GOVERNOR

DEPT. OF HEALTH AND SOCIAL SERVICES

OFFICE OF THE COMMISSIONER

POUCH H 01
JUNEAU, ALASKA 99811
PHONE: 465-3030

DOCUMENT #86-24

February 18, 1986

The Honorable Virginia Collins
Alaska House of Representatives
P.O. Box V
Juneau, Alaska 99811

Dear Representative Collins:

Dr. Middaugh has prepared, at your request, the attached proposal for conducting an epidemiological study of spinal cord/head injuries.

If you have questions or the need for additional information, please contact Elizabeth Ward, Director of Public Health.

Sincerely,

John R. Pugh
Commissioner

Enclosure

BILL SHEFFIELD, GOVERNOR

DEPT. OF HEALTH AND SOCIAL SERVICES

3601 "C" STREET, SUITE 540
POUCH 6333
ANCHORAGE, ALASKA 99502-0333

DIVISION OF PUBLIC HEALTH
EPIDEMIOLOGY OFFICE

EPIDEMIOLOGIC STUDY OF SPINAL CORD INJURIES/HEAD INJURIES IN ALASKA

PROPOSAL

John Middaugh, M.D.
State Epidemiologist
February 10, 1986

I. Introduction: No central source exists in Alaska to provide accurate information on the number of spinal cord/head injuries and descriptive information about the victims, circumstances of injury, and disability. Major effort will be required to obtain such information.

II. Proposal: Information will need to be gathered on all occurrences. Since spinal cord/head injuries may or may not be fatal, cause hospitalization, or result in permanent disability, numerous data sources will have to be explored.

1. Case Ascertainment: All traumatic injuries will have to be included, ranging from aircraft, motor vehicles, 3-wheeled ATVs, to falls, assault, suicide, and occupational injuries.

Death certificates, autopsy reports, hospital records, and financial payment records will need to be received to ascertain cases.

2. Case Definition: No single code or marker will identify cases for study. Numerous sources will have to be examined. Hospital records can be located by computer search using ICD codes. Once identified by computer search, each record will have to be reviewed and appropriate data extracted. The following ICD codes, as a minimum, will have to be searched:

Conditions	ICD Codes
Fracture of skull	800-804
Fracture of neck and trunk	805-809
Other paralytic syndromes	344
Intracranial Injury, laceration and contusion	851
Intracranial Injury, concussion	850
Intracranial Injury, subarachnoid, subdural and extradural hemorrhage	852
Intracranial injury, other	853-854

3. Descriptions: Data obtained will include demographic factors characterized according to time, place, and person. Data will be analyzed by pre-event occurrence, outcome, costs, and disability.

III. BUDGET

Personnel:	A medical epidemiologist will be required to oversee and direct the study. Four month full-time effort required equivalent.	$22,248	
	A nurse epidemiologist needed for four full-time months equivalent.	13,852	
	A computer programmer will be needed for three months, full-time equivalent.	10,389	
	A clerk-typist III will be needed for two months full-time equivalent	3,386	
		49,875	
		11,603	benefits
		2,960	health
		$64,438	
	Travel: Trips to Ketchikan (1) @ 3 days	692	
	Fairbanks (2) @ 3 days	984	
	Bethel (2) @ 3 days	1524	
	Juneau (4) @ 3 days	2368	
Supplies:	Computer discs, tapes, paper, data entry, key punching, forms (printing)	5,000	
		$75,006	TOTAL

IV. IMPLEMENTATION

Once funded, it will take 3-6 months to find qualified investigators and to obtain clearances required to obtain medical and financial data. It should be possible to complete a modest but accurate study in 12-18 months.

ALASKA TREATMENT CENTER

3710 E. 20th Avenue • Anchorage, AK 99508 • (907) 272-0586

MAR 0 3 1986

February 21, 1986

Representative Virginia M. Collins
Alaska State Legislature
Pouch V (MS 3100)
Juneau, Alaska 99811

Dear Representative Virginia Collins;

The enclosed resolution was adopted by the Alaska Treatment Center Board of Directors on February 20, 1986 expressing support for funding through the Division of Vocational Rehabilitation to rehabilitate Alaskans suffering from traumatic head injury. Also enclosed is an article from the Anchorage Daily News reflecting the Center's involvement with Megan Rust, an Alaskan head injury "success story".

Avis C. Hayden
Executive Director

For: Board of Directors

Frank Reed, SR. - President
Harry Brelsford - Vice President
Meredith Sykes - Secretary
Max Campbell - Treasurer
William Campbell - Member
Christine McAfee - Member
Gary McCarthy - Member
James O'Connell - Member
Peter Partnow - Member
Lidia Selkregg - Member
William Nugent - Member

ALASKA TREATMENT CENTER

3710 E. 20th Avenue • Anchorage, AK 99508 • (907) 272-0586

WHEREAS the Alaska Treatment Center for Crippled Children and Adults, Inc has continuously served the physically disabled/handicapped people of the state of Alaska since 1946 by providing quality out-patient therapeutic and rehabilitative programs, and,

WHEREAS the Alaska Treatment Center has prudently managed its program development grant funds so as to sustain programs on a fee-for-service basis independent of ongoing state subsidy, and

WHEREAS the Center seeks to develop a new and much needed program to serve traumatically head-injured Alaskans through intensive cognitive retraining and vocational rehabilitation,

BE IT RESOLVED THAT the Board of Directors of the Alaska Treatment Center requests the members of the 1986 Alaska state legislature to consider the desigation of $250,000 in the budget of the Division of Vocational Rehabilitation to provide a means for eight Alaskans to receive appropriate head-injury rehabilitation services and thereby return to gainful employment.

Frank M. Reed

Frank M. Reed, President
Alaska Treatment Center
Board of Directors

2/20/86
date

Corporate Seal
Alaska Treatment Center for
Crippled Children and
Adults, Incorporated

Anchorage Daily News/Bob Hallinen

Once an accomplished pilot, Megan Rust was struck by a forklift on a remote airstrip and has since had to struggle back from a coma in an effort to regain her former abilities.

To Fly Again: Former pilot fights back from serious head injury

By KIM RICH
Daily News reporter

Out on the runway, the slender blue and white Lear jets and the larger twin engine Otters glisten in the hot sun. Smiling broadly, Megan Rust walks among the planes.

On a remote section of the Anchorage International Airport runway, Rust is at home.

It was on another runway, a little over a year ago, that Rust's airborne dreams came violently crashing to the ground.

It was a day she can't remember, but one she will never forget.

On June 9, 1984, as Rust walked away from a Cessna 402 she had just piloted into the village of St. Marys, she was struck down by a forklift.

The driver never saw her. She saw him too late to get out of the way.

For three weeks, Rust lay in a coma in an Anchorage hospital while her parents, Henry and Alberta, kept a steady, prayerful vigil.

The day Rust opened her eyes, the struggle began to bring her back to the living world she once knew.

At 27, she is a graduate of the Florida aeronautical university — Embry-Riddle. Prior to her accident, Rust was a commercial airline pilot, licensed to fly multi-engine aircraft.

"Most people assume that after a coma, you can walk and talk," Rust says. "That's just not true."

Rust's primary injury was to her brain stem, which connects the larger portion of the brain to the spinal cord.

As a result, Rust's physical coordination, balance and strength were badly affected.

She also suffered a cerebral hemorrhage and a fractured skull in the accident.

At the time, the prognosis for her full recovery was a blank check of unknowns. At one point, a doctor told her mother that Rust would never talk again. For several months following her initial coma, Rust lay in a coma arousal stage — a dream like state where fantasy and reality mesh. She could not speak and barely recognized family and friends around her.

One of her first tests in therapy consisted of a doctor holding up pen and asking her if it was a basketball.

Last November Rust was transferred to Craig Hospital in Denver, Colo., where she underwent months of intensive rehabilitation.

Nowadays, she has speech and physical therapy a half-day each week at the Alaska Treatment Center.

While Rust was told she was lucky to survive the accident, it has taken her a great deal of effort to return to a normal life and and her previous accomplishments.

Rust was once rated as having an IQ of 115. She is ardently striving to reach that mark again. A recent IQ test showed she was nearing her mark.

"I have always worked hard all of my life," she says. "This (therapy) wasn't difficult at all. It was just a different way to work hard."

Rust is employed, but because she cannot now fly as a pilot, she works in the maintenance records section of a local airline.

Rust proudly points out that she drives her own car and owns a condominium.

She is petite, cheerful and bright. The lingering signs of her accident are a slight hobbling walk and a speech impairment due to a partial paralysis of her upper lip.

The braces she wears were put on prior to her accident.

These days she frequently uses a word to describe herself that used to be reserved for others — handicapped.

"A lot of people assume that because I can't talk well, I can't think well — that's not true."

But people with handicaps should not hesitate to tell people about their limitations or what they can accomplish, she says.

Flying used to be second nature to Rust. Now when she thinks about it, she does so carefully and methodically.

"Things that you used to do that would go from point "A" to point "B", now have to be re-routed from point "C"," she says of her thoughts.

See Page J-3, FORMER

Most head injuries are preventable

About 30 people in Alaska suffer from serious head injuries each year, says Dr. Shawn Hadley, medical director of the Alaska Treatment Center.

Many are preventable.

"Most of them are from auto accidents," she said, adding that motorcycle and all-terrain vehicle mishaps also rank high in the causes of head injuries.

Hadley said the use of seatbelts and helmets dramatically lowers the incidence of head injury.

"I don't think that there is enough awareness of the causes of head injuries," she said.

While a person's broken bones usually mend as good as new, the prognosis for the complete recovery of a head-injured person is unknown.

The damage, difficult to measure, can be permanent, Hadley says.

If after experiencing a loss of consciousness, a person continues to suffer from headaches, dizziness or unusual personal behav-

See Page J-3, MOST

Former pilot now struggles with learning how to walk, talk

Continued from Page J-1

She used to be a "spend-aholic." She says she is no longer as spontaneous, or compelled.

The study of the head-injured patient is a new frontier in medicine, says Dr. Shawn Hadley, medical director with the Alaska Treatment Center.

Little is known about head-injured people because it has only been through recent medical advances that patients are now surviving what used to kill them, says Hadley.

Neurologists have some ideas of what behavior and intellectual functions are affected depending on what side of the brain is impacted, she says.

But in most head injuries, the damage is diffuse, affecting the entire brain, she says. Even less is known about how information is transmitted from one part of the brain to other.

Depending on the degree of injury and how long a patient is in a coma, the effects range from a drop in intellectual capacity, to radical personality changes, or as in Rust's case, physical impairments.

Someone who was once mild mannered can become ill-tempered, and vice versa. And a once-organized person may find themselves battling a constance feeling of personal chaos.

Each head-injured patient requires individualized treatment involving a team of medical professionals, including among others, a neurologist, therapist and a psychologist, Hadley says.

But, according to Hadley, an even greater challenge is treating head-injured patients who don't believe they need help.

> **"A lot of people assume that because I can't talk well, I can't think well — that's not true"**
> *Megan Rust*

She says there are an unknown number of people in Alaska who are suffering from the effects of a minor head injury and aren't aware of it.

"I think that there are a lot of people out there who have a problem and don't know what it is," she says.

The signs are subtle; unexplained bouts of headaches, dizziness, inattentiveness, lack of motivation and concentration, and loss of memory.

Hadley says that people with minor head injuries will often attribute the problems to other sources such as their marriage or job.

Diagnosis is difficult because a person can sit and respond to questioning, giving the impression that everything is all right.

"These are things that aren't going to show up for a long period of time," she says. "The typical picture of the head-injured patient is the person who can't initiate things, or get things going."

Changes in the person are apparent to family and friends, but the head-injured person seldom recognizes their own problem, she says.

Rust knows her physical liabilities and what she has to overcome in order to fly again.

Her speech will have to be clear, her physical and mental reflexes fine-tuned and sharp.

For now, she will have to make do with a flight simulator.

But she is hopeful and determined to fly again.

"If you have a head injury," she says, "Don't lock yourself away."

Anchorage Daily News/Michael Penn

Physical therapist Antonia Fowler watches as Megan Rust walks a balance beam, one of her regular exercises.

Most head injuries can be prevented by using common sense

Continued from Page J-1

ior, Hadley says the person may be suffering from a brain injury.

A neurological assessment can help measure what brain functions have been affected.

Hadley plans to establish a local chapter of the National Head Injury Foundation to increase public awareness about head injuries.

The NHIF was established to lend support to the head injured and their families and to help them find proper treatment to return those with injuries to their maximum functioning potential.

According to a newsletter written by the NHIF, 100,000 people die annually as a result of head injuries. More than 700,000 have injuries severe enough to require hospitalization.

Out of this group, up to 90,000 people a year are left with intellectual or behavioral problems that prevent their return to a normal life.

The tragic news, Hadley says, is that two thirds of them are below the age of 30.

To avoid the chances of suffering a serious head injury, Hadley says, "Be attentive to what you're doing."

Re HB 1155

BILL SHEFFIELD, GOVERNOR

DEPT. OF HEALTH AND SOCIAL SERVICES

POUCH H-06C
JUNEAU, ALASKA 99811

DIVISION OF PUBLIC HEALTH
EMERGENCY MEDICAL SERVICES SECTION

465-3027

January 30, 1986

Representative Virginia Collins
Alaska State Legislature
P.O. Box V
Juneau, Alaska 99811

Dear Representative Collins:

In response to your inquiry about the number of spinal cord/head injuries in Alaska, we have had to gather information from several different sources. The two sources which give information about head injuries and spinal cord injuries are limited to those patients who were transported by air to hospitals in 1981 (see Alaska Medevacs, attached) and those fatalities associated with all-terrain vehicle fatalities in Alaska, 1983-1984 (see MMWR - Morbidity and Mortality Weekly Report, attached). Since there are no statewide statistics for a recent year specifically about spinal cord/head injuries, we have attached pages from different sources which give figures about injuries to the head, neck and back.

The following materials are attached to provide information about spinal cord/head injuries in Alaska:

Occupational Injury and Illness Information, Alaska 1982, Alaska Department of Labor

1983 Annual Hospital Survey, Alaska Department of Health and Social Services, Division of Planning

Alaska Medevacs: Descriptive Study, Identification of Problems, and Possible Solutions, 1983, South Central Health Planning and Development

State of Alaska Ambulance Services Survey, 1984, EMS Section, Dept. of Health and Social Services, Head/Spinal Injuries Reported by Ambulance Services, calendar year 1984

MMWR - Morbidity and Mortality Weekly Report, April 19, 1985, Vol. 34, No. 15, "Injuries Associated with Three-Wheel All-Terrain Vehicles - Alaska"

06-F46LH

The lack of information on spinal cord/head injuries underscores the need for a statewide injury surveillance system, as Dr. John Middaugh, DHSS Office of Epidemiology, has pointed out in his recent study of all-terrain vehicles. With the surveillance system in place, statistics would be readily available.

Please let me know if we can be of further assistance.

Sincerely,

Mark S. Johnson

Mark S. Johnson
Coordinator

Enclosures (5)

MSJ/mw

cc: Elizabeth Ward, M.N., Director
Division of Public Health

John Middaugh, M.D.
State Epidemiologist

Occupational Injury and Illness Information Alaska 1982

State of Alaska, Bill Sheffield, Governor
Department of Labor, Jim Robison, Commissioner

Workers' Compensation Division, Jacquelyn McClintock, Director
Administrative Services Division, Judy Knight, Director
Research and Analysis Section, Chuck Caldwell, Chief
Research Supervisor, Sally Saddler

In cooperation with the Bureau of Labor Statistics, U.S. Department of Labor

August 1984

Prepared by:
James R. Wilson, Labor Economist
Jeff Hadland, Labor Economist
Ingrid Zaruba, Statistical Clerk

Figure 2-8
Work Injuries and Illnesses by Part of Body Affected
Alaska
1982

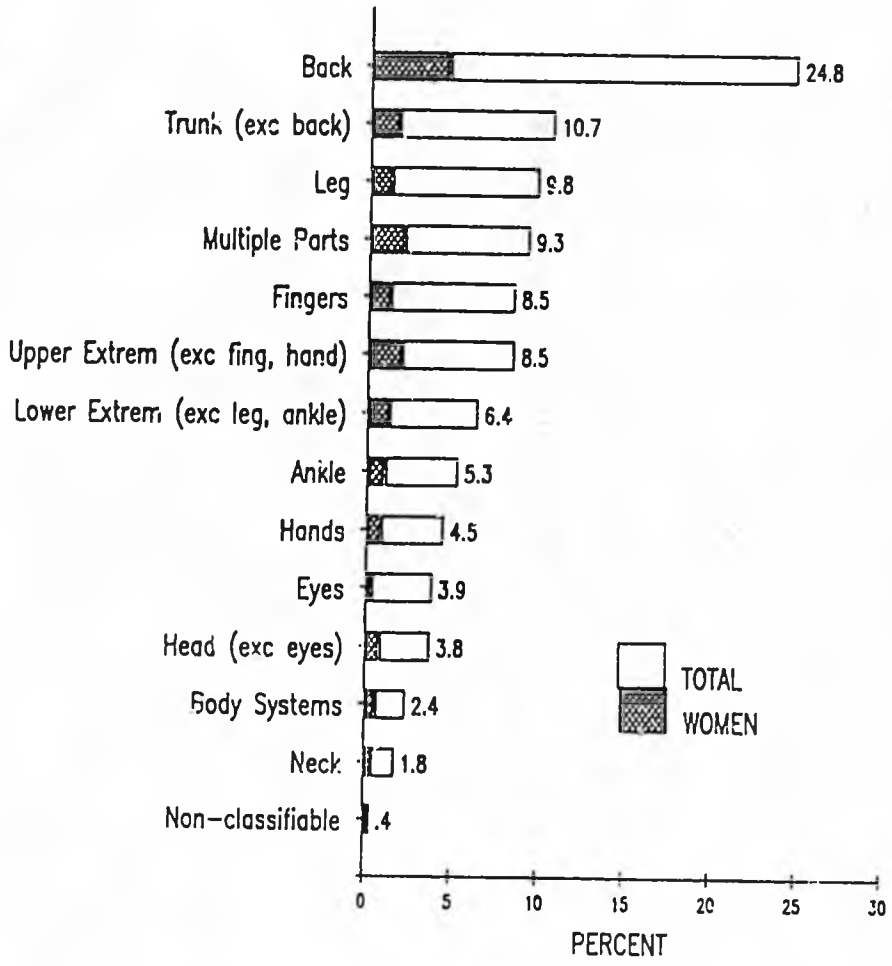

Table 2-1
Work Injuries and Illnesses
By Nature of Injury or Illness
Alaska 1982

SOS Code	Nature of Injury or Illness	Number of Cases	Percent
	Total	10125	100.0
100	Amputation or Enucleation	44	.4
110	Asphyxia, Strangulation, Drowning Suffocation	11	.1
120	Burn (Heat)	203	2.0
130	Burn (Chemical)	60	.6
140	Concussion	55	.5
	Infective or Parasitic Desese	15	.1
150	Infective or Parasitic Disease, UNS	1	.0
154	Conjunctivitis and Ophthalmia	10	.1
157	Tuberculosis	1	.0
159	Other Infective or Parasitic Disease	3	.0
160	Contusion, Crushing, Bruise	1459	14.4
170	Cut, Laceration, Puncture	938	9.3
	Dermatitis	42	.4
180	Dermatitis, UNS	12	.1
181	Contact Dermatitis	10	.1
182	Allergenic Dermatitis	10	.1
183	Primary Infections of the Skin	8	.1
184	Skin Conditions	1	.0
189	Skin Condition, not Specified	1	.0
190	Dislocation	110	1.1
200	Electric Shock, Electrocution	5	.0
210	Fracture	755	7.5
220	Effects of Exposure to Low Temp	35	.3
230	Hearing Loss, or Impairment	13	.1
250	Hernia, Rupture	164	1.6
260	Inflammation or Irritation of Joints, Tendons, or Muscles	166	1.6
	Poisoning, Systemic	75	.7
270	Poisoning, Systemic, UNS	7	.1
271	Due to Toxic Materials	48	.5
273	Upper Respiratory Conditions	3	.0
274	Influenza, Pneumonia, Etc.	14	.1
276	Other Diseases of the Gastrointestinal Tract	3	.0
	Radiation Effects	35	.3
290	Radiation Effects Uns.	1	.0
291	Non-Ionizing Radiation	4	.0
295	Welders Flash	30	.3
300	Scratches, Abrasions	290	2.9
310	Sprains, Strains	4677	46.2
320	Hemorrhoids	6	.1
330	Hepatitis (Serum and Infective)	17	.2
400	Multiple Injuries	655	6.5
500	Effects of Change in Atmospheric Pressure	6	.1
510	Cerebrovascular and Other Conditions of the Circulatory System	5	.0
530	Eye, Other Diseases of the Eye	4	.1
540	Mental Disorders	13	.1
	Nervous System, Conditions of	7	.1
560	Nervous System, Conditions of, Uns.	5	.0
562	Diseases of the Nerves and Peripheral Ganglia	2	.0
	Respiratory System, Conditions of	10	.1
570	Respiratory System, Conditions of, UNS	4	.0
571	Upper Respiratory	3	.0
572	Influenza, Pneumonia, Bronchitis, Asthsma	19	.2
580	Symptoms and Ill-Defined Conditions	45	.4
900	No Injury or Illness	2	.0
950	Damage to Prosthetic Devices	10	.1
991	Heart Conditions (Includes Heart Attack)	41	.4
995	Other Injury, Nec	12	.1
999	Non Classifiable	116	1.1

NOTE: Uns = Unspecified. Information not available to classify at a more detailed level.
Nec = Not elsewhere classified.
NOTE: Data includes only those reported cases which occurred during 1982 involving death or one or more lost workdays beyond the day of injury.
SOURCE: Alaska SOS Table 101.

Table 2-2
Work Injuries and Illnesses
by Part of Body Affected
Alaska 1982

SOS Code	Part of Body Affected	Number of Cases	Percent
	Total	10125	100.0
	Head	782	7.7
100	Head, Uns	68	.7
110	Brain	57	.6
	Ear(s)	32	.3
120	Ear(s), Uns.	1	.0
121	Ear(s), External	7	.1
124	Ear(s), Internal	24	.2
130	Eye(s)	397	3.9
	Face	156	1.5
140	Face, Uns	12	.1
141	Jaw	7	.1
144	Mouth	52	.5
146	Nose	17	.2
148	Face, Multiple Parts	13	.2
149	Face, Nec	41	.4
150	Scalp	16	.2
160	Skull	7	.1
198	Head, Multiple	37	.4
199	Head, Nec	12	.1
200	Neck	186	1.8
	Upper Extremities	2176	21.5
300	Upper Extremities, Uns	1	.0
	Arm(s)	401	4.0
310	Arm(s), Uns	100	1.0
311	Upper Arm	24	.2
313	Elbow	154	1.5
315	Forearm	112	1.1
318	Arm, Multiple	11	.1
320	Wrist	298	2.9
330	Hand	451	4.5
340	Finger	860	8.5
398	Upper Extremities, Multiple	165	1.6
	Trunk	3590	35.5
400	Trunk, Uns	2	.0
410	Abdomen	310	3.1
420	Back	2514	24.8
430	Chest	203	2.0
440	Hips	102	1.0
450	Shoulder(s)	323	3.2
498	Trunk, Multiple	134	1.3
499	Trunk, Nec	2	.0
	Lower Extremities	2172	21.5
500	Lower Extremities, Uns	2	.0
	Leg(s)	996	9.8
510	Leg(s), Uns	82	.8
511	Thigh	74	.7
513	Knee	685	6.8
515	Lower Leg	138	1.4
518	Leg, Multiple	16	.2
519	Leg, Nec	1	.0
520	Ankle	536	5.3
530	Foot	399	3.9
540	Toe(s)	147	1.5
598	Lower Extremities, Multiple	92	.9
599	Lower Extremities, Nec	2	.0
700	Multiple Parts	938	9.3
	Body System	242	2.4
800	Body System, Uns	45	.4
801	Circulatory System	44	.4
810	Digestive System	27	.3
820	Excretory System	3	.0
840	Nervous System	24	.2
850	Respiratory System	99	1.0
999	Nonclassifiable	39	.4

Note: Uns = Unspecified. Information not available to classify at a more detailed level.
Nec = Not elsewhere classified
Note: Data includes only those reported cases which occurred during 1982 involving death, or one or more lost workdays beyond the day of injury.
Source: Alaska SOS Table 102

TABLE 2-11
Work Injuries and Illnesses
Nature of Injury or Illness By Part of Body Affected
Alaska 1982

Nature of Injury or Illness	TOTAL	EYES	HEAD, NECK, EXCLUDING EYES	FINGERS	UPPER EXTREMITIES, EXCLUDING FINGERS	BACK	TRUNK-EXCEPT BACK	LOWER EXTREMITIES	MULTIPLE BODY PARTS	BODY SYSTEM	BODY, NEC	NONCLASSIFIABLE
TOTAL	10125	397	571	860	1316	2514	1076	2172	938	242	-	39
Amputation or Enucleation	44	-	-	41	2	-	-	1	-	-	-	-
Asphyxia, Strangulation, Etc.	11	-	-	-	-	-	-	-	-	11	-	-
Burn (Heat)	203	8	13	3	97	3	1	38	40	-	-	-
Burn (Chemical)	60	36	2	1	12	-	2	5	2	-	-	-
Concussion	55	-	55	-	-	-	-	-	-	-	-	-
Infective or Parasitic Diseases	15	11	1	-	-	-	-	1	-	2	-	-
Contusion, Crushing, Bruise	1459	11	94	153	331	82	189	524	74	-	-	1
Cut, Laceration, Puncture	938	15	71	411	245	-	14	176	3	-		3
Dermatitis	42	-	4	3	14	-	-	4	17	-		-
Dislocation	110	-	2	4	-	35	51	15	2	-	-	
Electric Shock, Electrocution	5	-	-	-		-	-	-	-	5	-	
Fracture	755	-	61	137	162	25	95	265	10	-	-	-
Effects of Exposure to Low Temp	35	-	3	11	4	-	-	9	6	1	-	1
Hearing Loss, or Impairment	13	-	13	-	-	-	-	-	-	-	-	-
Hernia, Rupture	164	-	-	-	-	-	164	-	-	-	-	-
Inflammation of Joints, Etc.	166	-	1	1	122	-	16	25	-	-	-	1
Poisoning, Systemic	75	-	-	-	-	-	-	-	-	75	-	-
Radiation Effects	35	35	-	-	-	-	-	-	-	-	-	-
Scratches, Abrasions	290	268	2	2	8	-	-	7	3	-	-	-
Sprains, Strains	4677	2	175	45	258	2356	489	1021	329	-	-	2
Hemorrhoids	6	-	-	-	-	-	6	-	-	-	-	-
Hepatitis	17	-	-	-	-	-	-	-	-	17	-	-
Multiple Injuries	655	5	38	44	39	11	31	52	434	1	-	-
Effects of Changes in Atmospheric Prs.	6	-	6	-	-	-	-	-	-	-	-	-
Cerebrovascular and Other Cond. of the Circulatory System	5	-	1	-	-	-	-	-	-	3	-	-
Complications Peculiar to Medical Care	2	-	-	-	-	-	-	-	-	1	-	1
Eye, Other Diseases of the Eye	4	4	-	-	-	-	-	-	-	-	-	-
Mental Disorders	13	-	-	-	-	-	-	-	-	13	-	-
Nervous System, Conditions of	7	-	-	-	-	-	-	-	-	7	-	-
Respiratory System, Conditions of	43	-	-	-	-	-	-	-	-	43	-	-
Symptoms and Ill-Defined Conditions	45	-	4	-	5	-	4	1	-	31	-	-
No Injury or Illness	2	-	-	-	-	-	-	-	-	-	-	2
Damage to Prosthetic Devices	10	1	5	-	-	-	-	1	-	-	-	3
Heart Conditions (Inc. Heart Attack)	41	-	-	-	-	-	-	1	-	41	-	-
Other Injury, Nec	12	-	1	-	-	-	3	6	-	2	-	-
Nonclassifiable	116	1	19	4	17	2,	11	20	18	-	-	24

NOTE: Uns = Unspecified. Information not available to classify at a more detailed level.
Nec = Not elsewhere classified.
NOTE: Data includes only those reported cases which occurred during 1982 involving death, or one or more lost workdays beyond the day of injury.
Source: Alaska SOS Table 511.

1983 ANNUAL HOSPITAL SURVEY

ALASKA ACUTE AND LONG-TERM HEALTH CARE FACILITIES

STATE OF ALASKA

DEPARTMENT OF HEALTH AND SOCIAL SERVICES

DIVISION OF PLANNING, POLICY AND PROGRAM EVALUATION

SECTION OF HEALTH PLANNING

July 1983

AK/DHSS/PPPE-83/23

TABLE 15.
1983 ANNUAL HOSPITAL SURVEY
ACUTE CARE FACILITIES
DISCHARGES BY ICD-9 DIAGNOSTIC GROUP
RATE PER 10000 POPULATION (ADJUSTED)
HSA AND STATEWIDE

ICD-9 MAJOR CATEGORIES	ICD-9 DETAIL	RATE PER 10000 POPULATION SE HSA	RATE PER 10000 POPULATION SC HSA	RATE PER 10000 POPULATION N HSA	RATE PER 10000 POPULATION STATEWIDE
TOTAL		19.67	26.50	22.85	24.76
MUSCULOSKELETAL					
	MUSCULOSKEL-CONNECT.	47.04	92.59	80.24	83.54
TOTAL		47.04	92.59	80.24	83.54
CONGENITAL AN[illegible]LIES					
	CONGENITAL ANOMALIES	7.70	15.83	13.26	14.14
TOTAL		7.70	15.83	13.26	14.14
PERINATAL MORBIDITY					
	PERINATAL MORBIDITY	8.34	22.36	8.04	17.33
TOTAL		8.34	22.36	8.04	17.33
SYMPTOMS&ILL-DEFINED					
	SYMPTOMS&ILL-DEFINED	67.78	79.78	91.52	80.60
TOTAL		67.78	79.78	91.52	80.60
EXTERNAL CAUSES					
	FRACTURES	57.30	54.77	49.80	58.33
	DISLOCATIONS	4.92	8.90	18.61	10.41
	SPRAINS-STRAINS	12.19	16.91	17.35	16.34
	INTRACRANIAL INJURY	9.19	10.01	8.18	9.51
	INTERNAL INJURY	2.35	4.89	4.09	4.36
	OPEN WOUNDS OF HEAD, NECK, TRUNK	20.10	23.05	27.64	23.62
	BURNS	4.28	6.75	6.35	6.32
	POISONING	15.18	10.43	13.11	11.67
	TOXIC EFFECTS	2.99	2.65	3.38	2.86
	COMPLIC.OF MEDICAL C	4.28	11.55	14.24	11.10
	OTHER INJURIES	25.30	25.10	24.26	25.09
TOTAL		151.08	175.02	187.02	179.60

NOTE: EXPLANATORY NOTES TO ALL TABLES FOLLOW TABLE 94.

TABLE 14. SEE APPENDIX I FOR A LIST OF ICD-9 CODES INCLUDED IN EACH DIAGNOSTIC GROUP

TABLE 15. SEE APPENDIX I FOR A LIST OF ICD-9 CODES INCLUDED IN EACH DIAGNOSTIC GROUP.
RATE PER 10,000 POPULATION (ADJUSTED):
POPULATION, SE HSA = 59201, ADJUSTED TO 46769.
POPULATION, SC HSA = 318477, ADJUSTED TO 214716.
POPULATION, N HSA = 83159, ADJUSTED TO 70912.
TOTAL POPULATION, STATE = 460837, ADJUSTED TO 332397.
ADJUSTMENTS WERE MADE TO THE DENOMINATORS FOR DIAGNOSTIC RATE CALCULATIONS IN ORDER TO REFLECT THE POPULATION FOR WHICH DATA WERE AVAILABLE. THIS MEANT, FOR NORTHERN HSA, EXCLUSION OF ALL MILITARY AND DEPENDENT POPULATION EXCEPT FOR THAT PROPORTION (ESTIMATED AT 20.4%) WHICH UTILIZED NON-FEDERAL FACILITIES. FOR SOUTHCENTRAL HSA, IT WAS NECESSARY TO EXCLUDE THE SERVICE POPULATIONS FOR BRISTOL BAY PHS, CENTRAL PENINSULA, HUMANA, NORTON SOUND, SOUTH PENINSULA AND USCG-KODIAK. FOR SOUTHEAST HSA, IT WAS NECESSARY TO EXCLUDE THE KETCHIKAN GENERAL HOSPITAL SERVICE POPULATION.

DUE TO CHANGES IN AVAILABILITY OF DIAGNOSTIC AND PAYMENT SOURCE DATA THIS YEAR FROM THE PREVIOUS YEARS' SURVEY, ANY CONCLUSIONS DRAWN FROM A COMPARISON OF RATES ARE NOT THOUGHT TO BE MEANINGFUL.

TABLE 16. SEE APPENDIX I FOR A LIST OF ICD-9 CODES INCLUDED IN EACH DIAGNOSTIC GROUP.
***** IN COMPUTER GENERATED OUTPUT INDICATE FACILITIES FAILURE TO REPORT ICD-9 DATA.

TABLE 17. SEE APPENDIX I FOR A LIST OF ICD-9 CODES INCLUDED IN EACH DIAGNOSTIC GROUP.
***** IN COMPUTER GENERATED OUTPUT INDICATE FACILITIES FAILURE TO REPORT ICD-9 DATA.
ANMC, YUKON-KUSKOKWIM REPORTED TOTAL DOES NOT INCLUDE SUPPLEMENTAL.

TABLE 18. SEE APPENDIX I FOR A LIST OF ICD-9 CODES INCLUDED IN EACH DIAGNOSTIC GROUP.
***** IN COMPUTER GENERATED OUTPUT INDICATE FACILITIES FAILURE TO REPORT ICD-9 DATA.
KOTZEBUE: REPORTED TOTAL DOES NOT INCLUDE SUPPLEMENTAL.

TABLE 19. SEE APPENDIX I FOR A LIST OF ICD-9 CODES INCLUDED IN EACH DIAGNOSTIC GROUP.

TABLE 20. SEE APPENDIX I FOR A LIST OF ICD-9 CODES INCLUDED IN EACH DIAGNOSTIC GROUP.
***** IN COMPUTER GENERATED OUTPUT INDICATE FACILITIES FAILURE TO REPORT ICD-9 DATA.
FAIRBANKS: PATIENT DAYS REPORTED BY PATIENTS DISCHARGED.

INTRACRANIAL INJURY	850-854
INTERNAL INJURY OF CHEST, ABDOMEN AND PELVIS	860-869
OPEN WOUND OF HEAD, NECK AND TRUCK	870-879
BURNS	940-949
POISONING BY DRUGS, MEDICAMENTS AND BIOLOGICAL SUBSTANCES	960-979
TOXIC EFFECT OF SUBSTANCES CHIEFLY NON-MEDICAL AS TO SOURCE	980-989
COMPLICATIONS OF SURGICAL AND MEDICAL CARE NOT ELSEWHERE CLASSIFIED	996-999
OTHER INJURIES AND OTHER UNSPECIFIED EFFECTS OF EXTERNAL CAUSES	880-939, 950-959, 990-995

[1]ALCOHOL ABUSE includes Alcoholic psychoses, Alcohol dependence syndrome, and non-dependent abuse of alcohol.

[2]DRUG ABUSE includes Drug psychoses, drug dependence, and non-dependent abuse of drugs.

Source: Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death, Volume 1, World Health Organization, Geneva, 1977.

ALASKAN MEDEVACS

DESCRIPTIVE STUDY, IDENTIFICATION OF PROBLEMS, AND POSSIBLE SOLUTIONS

Prepared by

South Central Health Planning and Development, Inc.
1135 West Eighth Avenue, Suite 1
Anchorage, Alaska 99501

(907) 278-3631

Available from the
EMS Section, DHSS
465-3027

May 1983

Year

The study year 1981 was selected for two reasons: (1) the contract period was scheduled to begin December 1, 1982 and most services and facilities could not have complete 1982 information; and (2) to effectively utilize the 1977 and 1979 Southern Region studies, the 2-year interval could provide better information for projections. In a number of instances (e.g., U.S. Coast Guard) 1981 data were not available or easily retrievable, and therefore 1982 statistics were collected. These cases are noted.

Definitions

The diagnoses (or suspected diagnoses in some cases) were categorized into the following:

Cardiac: includes all cardiac patients.
High Risk Infants: includes any emergency patient under 1 year of age.
High Risk Mothers: includes problem pregnancies, suspected problems with labor, and emergencies resulting from problem births.
Thermal: includes burn, frostbite, and hypothermia.
Head Injuries: includes all head injuries resulting from motor vehicle accidents, falls, other trauma.
Behavioral: includes suicide attempts, alcohol or drug related violent actions, depression, psychotic behavior.
Trauma: includes fractures, stabbings, amputations, gunshot wounds, multiple trauma. (Does not include head injuries or spinal cord injuries.)
Spinal Cord Injuries: includes back fractures, heel fractures, or back trauma. (Does not include back strain.)
Poison: includes intake of toxic substances.
Medical: includes such things as appendicitis, emphysema, gastro-intestinal bleeding, etc.

In addition to coding the type of illness/injury, the following variables were also retrieved and coded when available or applicable:

run number
date
age
sex
race
origin of incidence
transporting air service
escorts
insurance coverage
receiving hospital

"Severity" was also retrieved, but not used for analytical purposes. Because most patients were stabilized before transport, few "code reds" from the airfields were noted.

The definition of medevac also varied from location to location. The definition used for this study is "Any injury or illness requiring immediate air transport to more definitive care. These conditions had to be life-threatening, limb-threatening, a potential loss to sensory organs, and/or special or unusual circumstance". Because of the range of service capabilities within Alaska, determination of what constituted a medevac was made at the local level.

Table IV-2B

Patients Transported by Air into Anchorage
by EMS Region of Origin and by
Clinical Problem Category
1981

Dx Category	Southern Region	South-east	Interior	NANA	North Slope	Other/ Unknown	Total
High Risk Infants	54	6		1	4	1	66
High Risk Mothers	41	6	5	7	3	1	63
Cardiac	57	3	2	3	14	3	82
Poisonings	4				1	1	6
Trauma	155	6	21	14	24	17	237
Head Injuries	50		4	3	8	6	71
Spinal Cord Injuries	41	3	4	1	11	7	67
Thermal	11	2	2		3	6	24
Behavioral	10		1		4	3	18
General Medical	153	10	9	13	24	19	228
Unknown	3				3		6
TOTAL	579	36	48	42	99	64	868

Source: Anchorage Paramedic Run Reports

Table IV-2B shows the clinical category of medevac patients transported into Anchorage from each of the EMS regions. Trauma and general medical are major categories for all five regions. Southern and North Slope experienced a high proportion of cardiac patients. Seventy-four percent of all high risk infants and mothers originated within the Southern Region.

As Table IV-3 indicates, of the three referral hospitals in Anchorage, Providence Hospital received over 50% of the incoming patients. The number of emergency transports into Alaska Native Medical Center remained the same from 1979 to 1981. Humana Hospital Alaska's admissions increased from 72 in 1979 (then known as Alaska Hospital and Medical Center) to 106 in 1981, nearing its 1977 admissions. The most significant change in patient category is the continued increase in the transport of high risk infants to Providence Hospital. In 1981, the number increased to 42 over 27 in 1979. Other increases for Providence were in cardiac and head injuries. Decreases were noted in suspected spinal cord injuries and general medical. Other categories remained at about the same level.

TABLE IV-3

A COMPARISON OF AIR TRANSFERS OF PATIENTS
INTO ANCHORAGE BY CIVILIAN HOSPITAL AND BY PATIENT CATEGORY FOR 1977, 1979, 1981

PATIENT CATEGORY	Humana			Providence			ANMC		
	77	79	81	77	79	81	77	79	81
Cardiac	23	5	9	57	38	49	18	16	23
High Risk Infants	5	2	2	20	27	42	12	26	23
High Risk Mothers	1	1	9	10	27	26	13	33	25
Thermal	2	1	2	9	15	16	2	9	5
Poison	0	0	0	0	4	4	0	5	3
Head Injuries	10	11	7	32	35	46	17	16	19
Spinal Cord Injuries	16	3	7	24	47	37	8	5	18
Behavioral	2	1	1	13	6	9	2	11	4
Trauma	46	26	38	173	99	102	71	74	97
General Medical	23	17	31	61	122	111	54	123	96
Unknown			0			1			2
SUBTOTAL	128	72	106	399	420	443	197	318	315
TOTAL	128	72	106	399	420	503*	197	318	315

Source: 1977 Air Transfers into Anchorage Hospital by Location, Date and Patient Types
1979 study for SREMSC
Anchorage Paramedic Run Reports, 1981

*An additional estimated 60 patients/year are taken directly to Providence through their heliport.

Type of Transport

Most of the patients arrived in Anchorage via commercial airlines (Wien and Alaska Airlines primarily) and air taxi services. Approximately twenty percent arrived via air ambulance*, about ten percent arrived via military, coast guard, public safety, or other (including unidentified). It is believed that the percentage of arrivals via air ambulance is now higher as one service was starting up in 1981, the year for which data were collected.

Fairbanks Memorial Hospital

Using the same approach and definitions as described earlier in this chapter, research staff reviewed the 1981 Chena Goldstream Volunteer Fire Department EMS records. Interior Region EMS Council had already arranged the records involving medevacs by month. December information was not available, so the average from the other 11 months was used to estimate December statistics. Using this method, Fairbanks Memorial Hospital received approximately 145 medevac patients during 1981. (Please note, however, that the "Chena-Goldstream Volunteer Fire Department Progress Report on the Advanced Life Support Demonstration Project, April 1982" reported that 159 medevacs were received by Fairbanks Memorial Hospital in 1981. This discrepancy can most likely be attributed to a minor variation in methodology and/or an actual higher number of December transports than what was projected.)

As illustrated by Table IV-5, 35% of the medevacs into Fairbanks Memorial were general medical, while 34% were trauma cases. Nine percent of all medevacs involved head injuries. Other categories proved inconclusive because of the small numbers, but it is interesting to note that although 10 high risk mothers were transported, only 1 high risk infant was transported into Fairbanks Memorial Hospital. Other record sources show that the high risk infants were transported via the high risk infant transport team directly to Providence Hospital in Anchorage.

As with other emergency admissions, the number received at Fairbanks Memorial peaked during the summer months, although March showed an unusually high number of general medical cases.

Although severity indicators were noted (e.g., A/O, stable, etc.) most patients were stabilized prior to transport. Only eight records indicated a code red into Fairbanks Memorial.

*Information from air ambulance services.

Table IV-5

NUMBER OF EMERGENCY AIR TRANSPORTS
INTO FAIRBANKS MEMORIAL HOSPITAL VIA
CHENA-GOLDSTREAM VOLUNTEER FIRE DEPT.
BY MONTH & PATIENT CATEGORY
JANUARY 1 - NOVEMBER 30, 1981

month / Patient Category	J	F	M	A	M	J	J	A	S	O	N	SUBTOTAL
High Risk Infant				1								1
High Risk Mother			2	1		4			1	2		10
Burns				1								1
Trauma	1	1	5	5	5	5	8	1	4	5	5	45
Head Injuries	1		1		3	2		4		1		12
Spinal Cord Injuries				3				3	2			8
Poison		1							1			2
Behavioral												0
Cardiac		1	1	2	2							6
General Medical	5	6	8	3	5	5	6	3	2	2	2	47
Unknown								1				1
SUBTOTAL	7	9	17	16	15	16	14	12	10	10	7	133
TOTAL								(Est. for December : 12)				145

Source: Chena Goldstream Volunteer Fire Department EMS Records, 1981

Thirty-eight percent of the medevac patients were women and sixty-two percent were men. Only 12 cases involved children under the age of 14.

Seattle Hospitals

Most of the Alaskan medevac patients received by Seattle hospitals originate in Southeast Alaska and the Aleutian Chain (primarily Dutch Harbor). In addition, the Seattle facilities are most often the referral centers for the Anchorage and Fairbanks hospitals.

As illustrated by Table IV-6 most of the medevacs originating in Southeast are sent to Seattle facilities (Anchorage received 36 patients from Southeast). This is due primarily to established patient flow patterns and more recently because of Airlift Northwest serving Southeast communities. Data from the Aleutian Chain are incomplete, but during a one year period 45 patients were transferred to Seattle facilities from the Iliuliuk Clinic in Unalaska. Other major communities in the Aleutian Chain (including Adak*) transfer primarily to Anchorage facilities.

*Confirmed by conversation with Col. Lester Parker, Administrator, Elmendorf Hospital

Table IV-6
PATIENT EMERGENCY AIR TRANSPORTS TO SEATTLE HOSPITALS
BY PATIENT ORIGIN (EXCLUDING ANCHORAGE AND FAIRBANKS)
AND PATIENT TYPE FOR A 1 YEAR PERIOD

	S.E. Alaska Feb.1, 1982-Feb.28, 1983	Unalaska/ Dutch Harbor Oct.1, 1980-Sept.30, 1981
High Risk Infant	7	0
High Risk Mother	2	1
Trauma	15	12
Head Injury	9	1
Spinal Cord Injury	0	2
Thermal	3	0
Poisoning	0	0
Behavioral	0	3
Cardiac	14	0
General Medical	27	26
TOTAL	77	45

Sources: Airlift Northwest, Medevac Reports
Iliuliuk Clinic, Unalaska, Medical Evacuation Log

In 1981 at least 16 patients were air transferred to Seattle facilities from Anchorage and Fairbanks hospitals. These patients were transferred for specialized or extended care or by patient request. An additional 14 patients were transferred to other major referral centers as listed in Table IV-7. Most referrals were in the categories of general medical and spinal cord injuries.

Table IV-7

PATIENT AIR TRANSPORTS FROM FAIRBANKS
AND ANCHORAGE HOSPITALS TO MORE DEFINITIVE CARE
BY PATIENT TYPE AND LOCATION OF RECEIVING FACILITY
JANUARY 1, 1981 - DECEMBER 30, 1981*

		Receiving Location									
Hospital	Patient Type	Seattle	Portland	California	Texas	E. Coast	Colorado	Outside	Unknown	Anchorage	Sub Total
ANMC	High Risk Infant	1									1
	Spinal Cord Injury			1							1
Humana	High Risk Infant	1									1
	Spinal Cord Injury							1			1
	Medical	2									2
Providence	High Risk Infant	2									2
	Spinal Cord Injury	1	1	1			1	1			5
	Medical	1	1		1	1		1			5
	Trauma	3									3
	Cardiac							1			1
Fairbanks Memorial	High Risk Infant	3							1		4
	Spinal Cord Injury								2		2
	Medical								3	1	4
	Trauma	1							3	1	5
	Cardiac	1							2		3
	High Risk Mother									1	1
	Head Injury								1		1
Sub Totals By Receiving Location		16	2	2	1	1	1	4	12	3	-
									TOTAL		42

* December Information not available for Fairbanks

Source: Run Reports, Anchorage EMS
Run Reports, Chena-Goldstream
Vol. Ambulance Svc.

Table IV-8

AIR TRANSFERS FROM ANCHORAGE HOSPITALS
BY PATIENT TYPE FOR 1977, 1979 AND 1981

Category	Year 1977	1979	1981
Cardiac	22	3	1
High Risk Infant	10	6	4
High Risk Mother	N/A	N/A	0
Thermal	3	2	0
Head Injury	2	4	0
Spinal Cord Injury	6	5	7
Poisoning	0	0	0
Trauma	16	0	3
Medical	37	22	7
Total	96	42	22

The numbers of "outside" transfers has dramatically decreased as illustrated by Table IV-8. As Anchorage facilities increase their capabilities in critical and specialized care, fewer transfers result. Overall the transfers decreased by 48%. The only area showing no decrease in transfers is spinal cord injuries.

Summary

A summary of emergency medical transports into the tertiary or major referral centers of Anchorage, Fairbanks, and Seattle is shown in the table below.

Table IV-9

ESTIMATED NUMBER OF
EMERGENCY MEDICAL TRANSPORTS FROM ALASKAN COMMUNITIES
INTO MAJOR REFERRAL CENTERS
1981

Receiving Community	Number of Patients Transported In
Anchorage	928
Fairbanks	145
Seattle	138
TOTAL	1,211

C. Emergency Air Transports To and From Subregional Alaskan Hospitals and Clinics

Information on transfers into and from subarea Alaskan hospitals is seriously lacking. This section provides a brief analysis on the available data, but more detail is available in the regional reports. Primary data sources include service unit travel records, ambulance reports, clinic records and hospital survey data.

Transports into Subregional Alaskan Facilities

As shown by Table IV-10, fewer than half of the regional hospitals were able to provide statistics on transports into their facility. Of the ones able to provide data, many were not able to specify patient category. For those receiving facilities/communities reporting by patient category, the largest number of specified transports were in the trauma category (35%). Most of the patients in the "all other" category had a range of medical problems. Other categories that were represented by over 5% of the transports were high risk mothers and cardiac.

The available data were analyzed to determine whether any patterns emerged that would enable the researchers to estimate subregional transfers for those communities not supplying data. Different methods were reviewed such as incoming transfers/population ratios, incoming/outgoing transfer ratios. The methods were examined for use in groupings of similar hospitals.

Each method had substantial drawbacks. The major problem with each was that there was a great variation in the ratios, even within groupings of communities/facilities with similar characteristics. Any resulting estimates would be general. The reasons that there is such a variation could include:

- varying policies across and within communities as to when patients should be transported;
- availability of local transport;
- variation in reporting practices (such as reporting those air transports that were emergencies, versus reporting all patients transported by air);
- availability of payment for transport;
- availability of alternate means of transport (road system, etc.);
- capability of clinic in referring community to treat patient.

Table IV-10

AIR TRANSFERS INTO REGIONAL HOSPITAL CENTERS
AND TWO SUB-REGIONAL CENTERS BY CLINICAL CATEGORY
1981

CRITICAL CARE CATEGORY \ LOCATION	Ketchikan General	Mt. Edgecumbe	Sitka Community	Kotzebue PHS	Barrow	South Peninsula	Yukon-Kuskokwim PHS	Central Peninsula	Faith Hospital	McGrath Sub-Reg. Ctr. (FY '82)	Unalaska
Behavioral Health				3		11	2				
Spinal Cord Injury	1			2	1		11				
High Risk Infant	1			4	1	2	5				
Cardiac	9			6	6	14	12				
Burns/Thermal	3				5	1	11				
High Risk Mother	1			7	13		43				
Head Injury	1			9	1	1	14				1
Poisoning				1			12				
All Other Trauma	32			27	34	9	181		2	8	4
All Other	15			28	67	85	128		1	7	1
Total	63	51	Est. 16	87	128	123	419	53	3	15	6

Note Information not available from: Petersburg, Wrangell, Bartlett, Kodiak Island, Adak Naval, Bristol Bay.
No response from: Barrow PHS, Norton Sound, Seward General, USCG Kodiak, Valdez Community, Valley Hospital, Cordova Community.

Source: Individual hospital reports

Despite the major drawbacks in the available data, a ball-park estimate for number of air transfers into regional centers was arrived at for purposes of this report. In order to arrive at an overall total, estimates were derived by facility based on a review of data from similar facilities/communities. The estimates were tallied to give a ball-park figure for the civilian facilities in the state. The estimate is conservative.

Estimated Air Transfer Into Civilian Regional Alaskan Hospital Centers, 1981	
Patients Transported by Air	1,409

Transports Out of Subregional Facilities

Fifteen of twenty-one facilities, and two subregional centers, were able to provide data on emergency air transports from their facilities. Table IV-11 portrays the data available by facility. The majority of the transports were trauma patients. Another large number were patients with a variety of general medical problems, showing up in the "all other" category. Other categories representing over 5% of the transports included high risk mother, cardiac and head injury. Similar estimating procedures were employed as described above to supplement the information in Table IV-11. Estimates for outgoing air transports the 5 civilian facilities not supplying data are shown below:

Barrow	63
Norton Sound	97
Seward	7
Cordova	10
Valley	0

Table IV-11

AIR TRANSFERS OUT OF REGIONAL HOSPITAL CENTERS
AND TWO SUB-REGIONAL CENTERS BY CLINICAL CARE CATEGORY
1981

CLINICAL CARE CATEGORY \ LOCATION	Bartlett Memorial	Ketchikan General	Petersburg General	Sitka Community	Mt. Edgecumbe	Wrangell General	Kotzebue PHS	South Peninsula	Valdez Community	Yukon-Kuskokwim PHS	Bristol Bay PHS	Central Peninsula	Kodiak Island	Naval, Adak	Faith Hospital	McGrath Sub-Reg. Ctr. (FY '82)*	Unalaska Sub-Reg. Ctr.
Behavioral Health		2				4			1	2	9	1	12	33			7
Spinal Cord Injury						1	1		1	2						1	10
High Risk Infant		3	1	1			5	7		8	2		8		1		
Cardiac		8		6		1	3	11		8		1	2	2	1		13
Burns/Thermal			1	1				1		2	1	1					
High Risk Mother		1	4	3			5	10	1	15	13	3	2		3	4	6
Head Injury		1	1	4		1	3	7		9	5	6	1	3	2	2	5
Poisoning							1			1							
All Other Trauma		25	17	8		12	21	23	1	50	66	13	3	28	11	11	55
All Other		58	19	9		16	50**	31	3	53		11	3	258***	7	7	57
Total	108	98	43	32	25	35	89	90	7	150	96	36	33	324	25	25	153

* Data for FY 1982
** 14 DOA
*** Number of transports verified by Elmendorf
Note No Response from: Seward General, USCG, Kodiak; Valley Hospital; Cordova Community; Barrow, PHS; Norton Sound.
Source: Individual facility reports

A total estimate for air transports from subarea facilities including the 324 air transports from Adak (excluding the McGrath and Unalaska air transfers) are shown below.

Estimated Air Transfers Out of Regional Alaskan Hospitals, 1981	
Patients Transported	1,413

This estimate is approximately 200 higher than the information shown in the previous section on emergency medical transports into Anchorage, Fairbanks, and Seattle. There are at least two reasons for the discrepancy:

1) Not all transports reported as emergencies by subarea facilities may be perceived as emergencies by the receiving center. Alaska Native Medical Center sends a van to pick up non-emergency transfers; those transports would not show up in the paramedic reports. Friends or relatives may sometimes provide transport from airport to referral center.
2) Transports out of a subregional center can be to another subregional center.

Patients also are transported by air directly from communities without hospitals. Data for two such communities, McGrath and Unalaska, were collected to serve as prototypes and are shown in Table IV-11. Communities which have regular air connections with Anchorage or Fairbanks often refer patients directly to those large referral centers rather than transporting patients first to any subarea hospital that might serve the area.

McGrath transported 25 patients by air to Anchorage or Fairbnks during fiscal year 1982. Statistics collected from 1979 to 1982 indicate that nearly 85% of the patients are transported to Anchorage, the rest to Fairbanks. Fifteen patients were transported into McGrath by air, primarily from the surrounding communities of Nikolai, Takotna, Telida, and Lime Village.

Data were received for Unalaska from the Iliuliuk Family and Health Service for the September 1980 to November 1981 period. Statistics analyzed for the November, 1980 through October, 1981 show 153 air transports from Unalaska.

Twenty-one patients were transported to Seattle, all the rest were transported to Anchorage. Over one-third of the patients transported were trauma patients. Another large group had medical problems. Unalaska has a medevac rate that is very high in proportion to their population due to the large number of injured crew members brought into port for evacuation.

Summary

This section on transports into and out of subregional centers is limited because of the incompleteness of the data. Many hospitals don't keep the information on a regular basis. In addition, patients transported by commercial air carriers may or may not be met at the receiving airport by transport services run by the subregional facilities. Patients are then sometimes counted as residing in the subregional center who were nevertheless transported in from another area. Nevertheless, it appears that approximately the same number of emergency air transfers are transported into subregional Alaskan facilities (1400) as are transported out of them to the tertiary referral centers of Anchorage, Fairbanks, and Seattle (1200-1400).

D. Utilization of Air Ambulance Services

Three air ambulance services currently operate in Alaska: Airlift Northwest, Alaska Medivac Systems, Jet Alaska. Records for each of the three were reviewed for a one-year period. Data on numbers of transports are presented by diagnostic category, origin of transport, receiving facility, and response times. Summary information is reviewed at the end of this section.

Airlift Northwest

Airlift Northwest operates almost exclusively in Southeast Alaska. In 1982, they transported one patient from Anchorage to Seattle, however all other transports were from four towns in Southeast Alaska: Juneau, Sitka, Petersburg, Ketchikan. (Additional specific information can be found in the regional report.)

Table IV-12

Airlift Northwest
Medivacs into Seattle By Diagnostic Category
February, 1982 through February 1983*

Diagnostic Category	Southeast Region
High risk infant	7
High risk mothers	2
Cardiac	14
Poisonings	0
Trauma	15
Head injuries	9
Spinal cord injuries	0
Thermal	3
Behavioral	0
General medical	27
Total	77

* 13 months were used since the service started February, 1982. There were 2 southeast transports in the first month, none in the second month.

Source: Airlift Northwest records

Receiving facility for Airlift Northwest transports is based on a physician to physician referral. The receiving physician determines the hospital admission. The four hospitals supporting Airlift Northwest are listed in the table below. Patients are also transported to hospitals other than the four forming the support group.

Table IV-13

Receiving Hospitals in Seattle
for Airlift Northwest Transports
By Diagnostic Category
February, 1982 through February, 1983

Diagnostic Category	Children's Orthopedic	Harborview	Providence	University	Other	Total
High risk infant	4	-	-	3	-	7
High risk mother	-	-	-	2	-	2
Cardiac	1	4	5	4	-	14
Poisonings	-	-	-	-		0
Trauma	1	13	-	-	1	15
Head injuries	-	8	-	-	1	9
Spinal cord injuries	-	-	-	-	-	0
Thermal	-	3	-	-	-	3
Behavioral	-	-	-	-	-	0
General medical	8	9	2	4	4	27
Total	14	37	7	13	6	77

Source: Airlift Northwest records

Alaska Medivac Systems

Alaska Medivac Systems transports patients from all parts of Alaska though the vast majority are from the Southern EMS region. The table below shows the number of transports by region by diagnostic category.

Table IV-15

Alaska Medivac Systems
Medevacs by EMS Region of Origin
and Diagnostic Category
1982

Diagnostic Category	Southern	Southeast	Interior	NANA	North Slope	Total
High risk infants	8	3	2	1	0	14
High risk mothers	12	1	0	0	0	13
Cardiac	7	0	2	0	0	9
Poisonings	2	0	0	0	0	2
Trauma	18	0	1	0	2	21
Head injuries	9	1	0	0	0	10
Spinal cord injuries	5	0	0	0	0	5
Thermal	4	0	0	0	0	4
Behavioral	0	0	0	0	0	0
General medical	22	1	0	0	0	23
Unknown	1	0	0	0	0	1
Total	88	6	5	1	2	102

Source: AMS records

Receiving facility for Alaska Medivac Systems transports is also based on physician - physician referral. OF the 102 transports, 84% were to the three Anchorage civilian hospitals. Of the transports to facilities other than the three civilian acute care medical hospitals in Anchorage, two were back to the outlying subarea referring hospital, and the rest were to Seattle.

Table IV-16

Receiving Facilities
for Alaska Medivac Systems Transports
By Diagnostic Category
1982

Diagnostice Category	Humana	Providence	AK Native Medical Ctr	Other	Unknown	Total
High risk infant	0	3	1	8	2	14
High risk mother	0	9	2	2	0	13
Cardiac	0	8	0	1	0	9
Poisonings	1	0	1	0	0	2
Trauma	5	11	4	1	0	21
Head injuries	3	5	2	0	0	10
Spinal cord injuries	1	4	0	0	0	5
Thermal	0	3	1	0	0	4
Behavioral	0	0	0	0	0	0
General medical	8	13	1	1	0	23
Unknown	0	0	0	1	0	1
Total	18	56	12	14	2	102

Source: AMS records

Jet Alaska

Jet Alaska also transports patients from all parts of Alaska. Again the majority are from the southern region. The table below shows the transports from each region by diagnostic category.

Table IV-18

Jet Alaska
By EMS Region
and Diagnostic Category
1982

Diagnostic Category	Southern	Southeast	Interior	NANA	North Slope	Total
High risk infant	51	6	5	1	1	64
High risk mothers	17	2	1	0	0	20
Cardiac	10	1	2	1	2	16
Poisonings	1	0	0	0	0	1
Trauma	22	1	3	0	4	30
Head injuries	15	0	0	1	0	16
Spinal cord injuries	4	1	1	0	4	10
Thermal	2	1	0	0	0	3
Behavioral	0	0	0	0	0	0
General medical	21	1	1	0	3	26
Total	143	13	13	3	14	186

Source: Jet Alaska records

Receiving facilities for Jet Alaska are primarily in Anchorage. Of the 186 transports, 12 were taken to non-Anchorage facilities (primarily Seattle, but also other Alaskan facilities) and 3 are unknown. In other words, over 92% of the Jet Alaska transports are to Anchorage facilities.

Table IV-19

Receiving Facilities
for Jet Alaska Transports
By Diagnostic Category
1982

Diagnostic Category	Humana	Providence	AK Native Medical Ctr.	Other	Unknown	Total
High risk infant	1	56	3	3	1	64
High risk mothers	0	16	1	3	0	20
Cardiac	1	8	2	4	1	16
Poisonings	0	1	0	0	0	1
Trauma	2	20	6	1	1	30
Head injuries	3	12	1	0	0	16
Spinal cord injuries	0	9	0	0	1	9
Thermal	3	0	0	0	0	3
Behavioral	0	0	0	0	0	0
General medical	3	16	5	2	0	26
Total	13	138	18	13	4	186

Source: Jet Alaska records

Summary of Utilization and Response Times

A summary of utilization of the three ambulance services operating in Alaska is shown in the table below by region and diagnostic category for 1982.

Table IV-21

Medevac Transports by Air Ambulance Services
in Alaska by Region of Origin
and Diagnostic Category
1982

Diagnostic Category	Southern	Southeast	Interior	NANA	North Slope	Total
High risk infant	59	16	7	2	1	85
High risk mothers	29	5	1	0	0	35
Cardiac	17	15	4	1	2	39
Poisonings	3	0	0	0	0	3
Trauma	40	16	4	0	6	66
Head Injuries	24	10	0	1	0	35
Spinal cord injuries	9	1	1	0	4	15
Thermal	6	4	0	0	0	10
Behavioral	0	0	0	0	0	0
General medical	43	29	1	0	3	76
Unknown	1	0	0	0	0	1
Total	231	96	18	4	16	365

A summary of the receiving facilities for Alaskan transports by the three air ambulance services operating in Alaska is shown in the following table.

Table IV-22

Receiving Facilities
Alaskans Transported by Air Ambulances
1982

	Anchorage			Seattle					
Diagnostic Category	ANMC	Humana	Prov.	Children's Orthopedic	Harborview	Prov.	Univ.	Other*	Total
High risk infant	4	2	59	4	0	0	3	14	86
High risk mothers	3	0	25	0	0	0	2	5	35
Cardiac	2	1	16	1	4	5	4	6	39
Poisonings	1	1	1	0	0	0	0	0	3
Trauma	10	7	31	1	13	0	0	3	65
Head injuries	3	6	17	0	8	0	0	1	35
Spinal cord injuries	0	1	13	0	0	0	0	1	15
Thermal	1	3	3	0	3	0	0	0	10
Behavioral	0	0	0	0	0	0	0	0	0
General medical	6	11	29	8	9	2	4	7	76
Total	30	32	194	14	37	7	13	37	365

* Includes some within Alaskan, some to other Seattle facilities, some unknown.

E. Military, Coast Guard, Other Public Agency Involvement in Air Transport

The military groups in Alaska are involved in the emergency transport of patients by air through the Alaskan Air Command Rescue Coordination Center. Table IV-24 shows that 69 medical evacuations were carried out in 1981 by U.S. Air Force units located at Elmendorf Air Force Base. Most of the cases were transported from location of incident to Elmendorf Air Force Base Hospital or Providence Hospital. In some cases, patients were transported from the village to a regional center.

TABLE IV-24

Alaska Air Command
Rescue Coordination Center Emergency Air Transports
By Location of Incident* and Diagnostic Category
1981

Diagnostic Category	NANA	Southeast	Southern	Interior	Total
High Risk Infants					
High Risk Mothers			1		1
Cardiac	1			2	3
Poisonings					0
Trauma	2		20	5	27
Head Injuries			1	2	3
Spinal Cord Injuries	2		3	4	9
Thermal	3		9	2	14
Behavioral	1				1
General Medical		1	6	4	11
Total	9	1	40	19	59

*None reported for North Slope

Source: Alaska Air Command, Rescue Coordination Center
SAR Recapitulation

The Alaska State Troopers are also involved in rescue efforts. For fiscal year 1981, as shown in Table IV-25, 37 people were transported by air.

TABLE IV-25

Alaska State Trooper
Emergency Air Transports
By Location of Patient and Diagnostic Category
FY 1981

Diagnostic Category	Southeast	Southern	North Slope	Interior	NANA	Total
High Risk Infant						
High Risk Mothers						
Cardiac	3		1			4
Poisonings						
Trauma	12	3				15
Head Injuries		1				1
Spinal Cord Injuries	1				2	3
Thermal	3	3		3	4	13
Behavioral						
General Medical	1					1
Total	20	7	1	3	6	37

Source: Alaska State Troopers
Note - Trooper records were quite detailed and include information on all incidents they participated in. When it appeared that there was duplication between Medevacs actually made by Coast Guard or Mast, and troopers primarily provided backup, those evacuations were counted elsewhere.

The United States Coast Guard plays a major role in emergency air transports through their coordination center in Juneau. In addition to providing emergency transport for a large number of patients, the Coast Guard serves as a communication link providing medical consultation services in some cases and advice as to closest medical service (in most cases closest port, but in some cases closest ship with a physician).

Records were reviewed for calendar year 1982. Of the 251 medevac/medico files reviewed, 164 resulted in emergency transport. While most transports involved aircraft, some were performed solely by boat. Most of the 164 emergency transports were performed by the Coast Guard, however 19 were carried out by commercial aircraft, some organized by State Troopers, some by other local residents. Transports overseen by the Coast Guard are shown by diagnostic category in Table IV-26. Trauma and general medical lead in categories of transports.

TABLE IV-26

U.S. Coast Guard
Emergency Transports*
By Diagnostic Category
1982

Diagnostic Category	Transports
High Risk Infants	3
High Risk Mothers	3
Cardiac	14
Poisonings	1
Trauma	55
Head Injuries	5
Spinal Cord Injuries	11
Thermal	7
Behavioral	8
General Medical	44
Unknown	13
Total	164

*Includes 19 transports conducted by commercial carriers.
Source: Review of USCG files.

The originating locations of the transports are shown by region in Table IV-27. The vast majority occur in the Kodiak area and southeast Alaska where the major Coast Guard installations are located.

TABLE IV-27

U.S. Coast Guard
Emergency Transports
By Origin of Patients
1982

Origin of Patients	Transports
Southeast	51
Southern	
Kodiak	71
Aleutians/St.Paul	18
Other	24
Total	164

Source: Review of USCG files.

F. Summary of Utilization Information

In this chapter, data have been presented on numbers of emergency medical air transports from subregional communities into regional centers, from regional centers into the three tertiary referral centers (Anchorage, Fairbanks, and Seattle), and from the two Alaska tertiary referral centers to Seattle and other specialized centers outside Alaska.

Table IV-29 summarizes the data on the three major tertiary referral centers by diagnostic category. Over half of the referrals in all diagnostic categories are to Anchorage. In fact, over three-fourths of the transports in all categories except cardiac and general medical cases are into Anchorage.

Table IV-29

Frequency and Percent of Medevac
Referrals to Anchorage, Fairbanks, and Seattle
By Diagnostic Category

	Anchorage		Fairbanks		Seattle	
	#	%	#	%	#	%
Cardiac	23	52.2	6	13.6	15	34.1
High Risk Infant	57	81.7		1.2	14	17.1
High Risk Mother	60	82.1	10	13.7	3	4.1
Thermal	23	85.2	1	3.7	3	11.1
Poison	7	77.8	2	22.2	0	0
Head	72	76.6	12	12.8	10	10.6
Spinal	62	84.9	8	10.9	3	4.1
Behavioral	14	82.3	0		3	17.6
Trauma	237	75.7	45	14.4	31	9.9
General Medical	238	69.8	47	13.8	56	16.4
Unknown	3	75.0	1	25.0	0	0

C0379/11/84/500

DISTRIBUTED BY THE NATIONAL HEAD INJURY FOUNDATION
18-A VERNON STREET, FRAMINGHAM, MASSACHUSETTS 01701
Published in Central Nervous System Trauma Research Status Report, 1979 National Institute of Neurological and Communicative Disorders and Stroke.

NHIF, 18 A Vernon Street, Framingham, MA 01701

Chapter 15

BEHAVIORAL CONSEQUENCES OF CLOSED HEAD INJURY[1]

ARTHUR BENTON, M.D.*

I. Introduction

Cognitive defects, emotional disturbances and "personality change" have always been recognized as salient and sometimes permanent sequelae to the acute phase of a head injury. Among the features of this posttraumatic symptom-complex are: (1) impairment in attention and concentration; (2) fatigability; (3) disturbances in memory; (4) emotional instability and lowered tolerance of frustration and noise; (5) personality alteration in the direction of either depression and withdrawal or disinhibition and euphoria; (6) asphasic deficits; (7) basic and higher-level sensory deficits of various types. Some symptoms occur with remarkably high frequency as late effects of head trauma. Caveness (1966) found in a sample of 281 military men examined 5 years after head injury that 41 percent complained of inability to concentrate, 47 percent of excessive fatigability and 42 percent of impairment in memory, the base rate for these complaints in a control group of non-injured military personnel being about 10 percent. Forty percent of the men manifesting these features of the posttraumatic "syndrome" had failed to make a satisfactory socioeconomic adjustment, as compared to 11 percent of the controls.

Any of these cognitive and emotional changes can occur after closed head injury from blunt trauma as well as after penetrating brain wounds and it is sometimes suggested that, in studying their sequelae, a sharp distinction between the two types of trauma is not justified (cf. Teuber, 1969). However, the *modal* posttraumatic behavioral pictures are different. Specific cognitive impairments indicative of focal brain injury, such as aphasic disorders, sensory defects and higher-level perceptual deficits (i.e., "agnosias"), in combination with neurological signs of focal damage, occur much more frequently after penetrating brain damage. The more common picture after closed head injury is a constellation of relatively vague complaints of impairment in concentration, disturbances in memory and emotional instability with a paucity of specific neurological signs of cerebral abnormality. This set of more general complaints or deficits, which may occur after relatively mild closed head injury, is sufficiently distinctive to be often designated as "the" posttraumatic syndrome. Nevertheless, highly specific cognitive deficits such as one or another form a aphasic disorder may occur as a persisting consequence of blunt trauma, particularly in older individuals (Welte, 1948; Hillbom, 1960; Ota, 1966; Heilman et al., 1971). Conversely, posttraumatic emotional instability with irritability is not an uncommon sequela of penetrating missile injury (Lishman, 1968).

The question of the behavioral sequelae of head trauma in children presents is own peculiar problems. The lack of firm establishment of hemispheric specialization of function and the greater possibilities for restitution of function after injury in the developing nervous system lead to the expectation that the main consequence of trauma would be a general lowering of cognitive abilities with a paucity of focal defects such as aphasia. Moreover, a swifter recovery of function might be anticipated because of the greater "plasticity" of the immature nervous system. Yet psychiatric disturbance in various forms appears to be extraordinarily frequent (Leischner, 1962; Klonoff & Paris, 1974; Shaffer et al., 1975). However, systematic comparative studies of the consequences of head trauma in adults and children, using the same methods of assessment and focusing on the same cognitive and behavioral characteristics, have not been undertaken. It is possible that such controlled study would disclose fewer differences in the symptom-picture, course of recovery and outcome than

* Departments of Neurology and Psychology, University of Iowa

[1] I am greatly indebted to Dr Harvey S. Levin for his valuable suggestions and criticisms.

HEAD INJURY REHABILITATION

Head injuries or intracranial injuries are a major medical problem affecting hundreds of Alaskans each year. A review of the 1984 State Health Plan for Alaska attests to the severity of this disabling problem. In 1981, 344 acute care hospitalizations carried a primary diagnosis of intracranial injury. Four percent of all work-related injuries reported during 1981 involved head trauma.

Accidents continue to be a leading cause of death in Alaska. In fact, Alaska's accident-related mortality rate is 220% above the national average. Motor vehicle accidents are the leading cause of accidental death in Alaska. With improved emergency medical technology, an ever-increasing proportion of severe injury victims survive. However, many of these survivors suffer from life-long severe cognitive and psychosocial impairment as a consequence of brain damage caused by closed or penetrating head injuries suffered during accidents. Throughout the nation, these individuals were previously ignored after they had received acute medical treatment followed by traditional rehabilitation services such as physical therapy, occupational therapy and speech therapy. Insofar as the cognitive deficits are typically the most debilitating consequence of a head injury (Levin, H.S., A.L. Benton & R.G. Grossman, Neurobehavioral Consequences of Closed Head Injury. New York: Oxford University Press, 1982), many head-injured patients would experience repeated failures when trying to function vocationally and psychosocially. Eventually these victims usually retreated from society, became depressed and vegetated day after day in front of a television.

During the past five years, a nation-wide interest in the appropriate rehabilitation of head injury patients has emerged. The National Head Injury Foundation, in collaboration with concerned professionals, has fostered an increased awareness of the rehabilitation needs of this unique population. Several outpatient post-acute rehabilitation programs have been established in the "Lower 48". Program evaluation data indicate that these specialized treatment programs result in improved functioning of head-injured participants, including a significant increase in competitive employment when comparing treated patients with similar head injury cases receiving only traditional rehabilitation services (see Prigatano, G.P. et al., "Neuropsychological Rehabilitation After Closed Head Injury in Young Adults". Journal of Neurology, Neurosurgery and Psychiatry, May, 1984, pp. 505-513).

Head injury clients usually demonstrate a characteristic set of cognitive and psychosocial changes following acute recovery, due to the nature of the brain injury incurred. Typically, the frontal and temporal lobes of the brain are contused or bruised due to the jarring of the brain within the cranium. Similarly, diffuse tearing and shearing of white matter deep in the cerebral hemispheres and brain stem is

typically involved. The neuropsychological consequences of these characteristic injuries include impairments in memory, planning, judgment, organizational skills, language, attention and concentration. Cognitive processing of new information is notably slower than normal, and significant organically-caused personality changes are frequently observed (e.g., impulsivity, emotional lability, anger or lethargy). These patients are often quite confused in their thinking and display anosagnosia (that is, a failure to recognize their cognitive impairments and a failure to appreciate the implications of these deficits relative to everyday functioning). Inasmuch as brain cells do not regenerate, these deficits can be permanent. Given that the majority of head injuries occur to individuals between the ages of 20 and 30 years, these victims have a long but bleak future to look forward to unless they are successfully rehabilitated to maximize their post-injury functioning.

The Alaska Treatment Center is developing an outpatient head injury rehabilitation program. This is the only program of its kind in Alaska and is designed to meet an important human service need. The Treatment Center is a private nonprofit corporation, which derives financial support for its programs through fee for service reimbursement.

REHABILITATION PSYCHOLOGY ASSOCIATES, P.C.
7140 S.W. FIR LOOP, SUITE 130
TIGARD, OREGON 97223
(503) 684-1965
(503) 243-1230
(ANSWERING SERVICE)

JUDITH A. FALCONER, PH.D.
REHABILITATION PSYCHOLOGIST

ENRIQUETA TERCILLA, PH.D.
CLINICAL NEUROPSYCHOLOGIST

November 26, 1985

RECD NOV 30 1985

Ms. Heather Double
Denali Towers So., Suite 501
2600 Denali St.
Anchorage, AK 99503

Dear Ms. Double:

The enclosed article is sent at the request of Mrs. Shirley Nodell, Regional Vice-President of the National Head Injury Foundation, who thought the material might be of interest to your group. It was originally prepared for presentation at the Washington State Head Injury Foundation Annual Meeting.

Please feel free to reproduce it if you wish but make sure that the complete article is reproduced and that appropriate credit is given to Rehabilitation Psychology Associates.

For those of you who maintain files on available treatment programs, we have also included brochures describing our programs.

Good luck in your efforts.

Sincerely,

Enriqueta Tercilla

Enriqueta Tercilla, Ph.D.
Clinical Neuropsychologist

Judith Falconer

Judith A. Falconer, Ph.D.
Rehabilitation Psychologist

Enc.: Chemical Abuse and Head Injury
Brochure

CHEMICAL ABUSE AND HEAD INJURY

Judith A. Falconer, Ph.D. & Enriqueta Tercilla, Ph.D.

INTRODUCTION

Research studies have repeatedly demonstrated that a disproportionate number of individuals who sustain head injuries have histories of recreational drug and alcohol abuse and, in many cases, had consumed such substances immediately prior to their accidents. Such abuse clearly plays a significant role in contributing to or causing head injuries in this country. For example, Rumbaugh and Fang (1980) state:

> The importance of the interrelationship between head trauma and drug abuse cannot be overemphasized. Trauma to the head is a direct result of drug misuse in many of the patients arriving at the hospital emergency room. This is particularly true in the younger age group. The problem is essentially the same as with alcohol abuse except that the alcohol abuse patient is frequently older. Many misuse both drugs and alcohol.

Although recreational drugs and alcohol are the substances most frequently addressed in the professional literature, consideration must also be given to abuse, misuse and mixing of prescription and non-prescription drugs and other more common substances by individuals who have sustained head injuries.

SCOPE OF THE PROBLEM

Those studies which document the incidence of pre-injury drug and alcohol abuse in head injured populations almost invariably fail to state criteria for inclusion in such a category (e.g. how many drinks per day, week, etc. constitute abuse). In addition, the sources of information used to identify such abuse are usually stated in extremely general terms (e.g. "family reports"): the accuracy of the data therefore becomes suspect. But, since family members and friends are unlikely to exaggerate the use pattern of such substances to health care professionals, it is probably safe to assume that research statistics underestimate the severity of the problem. For example, Rimel & Jane (1983) report that 52% of their sample of acutely head injured individuals were considered legally intoxicated (blood alcohol level >.10) at the time of injury; 25% had received some type of professional treatment for alcohol abuse and 4% for drug abuse. In the Scandanavian population studied by Tobis, et. al (1982), 51 of 75 patients had histories of excessive alcohol intake and intoxication and were less than 20 years old; 29 of them had histories of drug use including marijuana as well as oral and injectable drugs. Of the 63 patients examined by McLaughlin & Schaffer (1985), 55% were involved with drugs or alcohol at the time of the injury and 38% were known to have had alcohol or drug abuse

problems pre-injury. Given the relatively young age distribution of individuals sustaining head injuries, it is not surprising to discover histories of marijuana use: as of 1979, 50% of people age 18-25 reported some use of marijuana (Schuckit, 1979).

For a variety of reasons, studies of prognosis and outcome following head injury frequently exclude individuals who abused recreational drugs and/or alcohol prior to their accidents, even though such a practice produces a significant distortion of the data. Although it is unclear from research reports how often recreational drug and alcohol abuse continues or arises after head injury, clinical experience suggests it is a significant problem. It is important to note that a pattern of substance use pre-injury, even though unchanged in quantity or frequency, may be one of substance abuse after significant head injury because of physical, cognitive, behavioral and emotional deficits. Thus, the individual who consumed several glasses of beer or several "joints" per day is no longer able to do so without significantly increasing post-injury problems.

It is also critical to address problems in misuse, abuse or mixing of prescription drugs after an individual has sustained a head injury. Medical complications after such an injury frequently result in the need for multiple medications to control physical problems such as seizures, neurogenic bladder, heterotopic ossification, tone and spasticity. When such medications are prescribed by multiple physicians, the possibility of drug interaction and increased side-effects may not be adequately explored. But even when such powerful substances are appropriately prescribed, there is a signficant risk that prescribed patterns of use will not be followed. This is especially true of seizure medications but is also seen with pychoactive (anti-psychotics, anti-depressants, and anti-anxiety) and pain medications. Individuals who have documented seizure disorders commonly report that they take their medication only when they "feel a seizure coming on." Family members frequently report failure to administer prescribed psychoactive medications because of the implication that their loved one is "crazy" or discontinue those medications as soon as behavior control is established secondary to the drug. When taking most of the medications prescribed for head injury related problems, consumption of alcohol and/or recreational drugs is clearly contraindicated.

Misuse, abuse or mixing of non-prescription (OTC) drugs may also play a significant role in causing head injuries, may interfere with recovery following a head injury, and/or may complicate long term adjustment to residual deficits. The absence of a documented role of such medications in accident reports, hospital data, or rehabilitation progress notes does not preclude such an effect. In our chemically oriented society, one cannot exclude the possibility of medication interactions and potentiation contributing to the causes and outcome of head injury if the injured individual, in addition to prescribed drugs, consumes OTC preparations for each minor discomfort or symptom. For example, the common practice of taking aspirin for headache relief frequently increases the severity of ruptured brain aneurysms by interfering with normal clotting times: bleeding becomes more

difficult to control. Many OTC medications are known to cause drowsiness, decrease cognition, and lead to confusion and lethargy even when taken in recommended doses.

Clinical experience also suggests that head injured individuals may abuse more common substances such as tobacco, caffeine and vitamins. Given the known metabolic changes following head injury, it is unclear what effects may be experienced when such substances are used in normal quantities much less when they are abused or used in combination with medications, drugs and/or alcohol. Consumption of 10 - 15 cups of coffee per day may well cause significant agitation and restlessness in an individual who has sustained a head injury. Some head injured individuals and their families engage in megavitamin therapy in the belief such a practice will speed recovery; the effect of such a practice is unknown but vitamins are powerful chemical substances which can disrupt metabolism and, in large doses, are clearly toxic.

Thus, although this paper focusses primarily on abuse of recreational drugs and alcohol, it is critical to keep in mind the possible role of these other substances in complicating and confounding the total picture in head injury.

THE CHRONOLOGY OF SUBSTANCE ABUSE IN HEAD INJURY

Paving the Way: Pre-injury chemical abuse

Studies of individuals known to have abused chemical substances (e.g. marijuana, cocaine, alcohol, etc.) document the negative effects of such behavior on the brain. In addition to the observed social, psychological and behavioral problems involved in substance abuse, pathological changes, some of which are irreversible, have been demonstrated within the brain and central nervous system. The absolute amount of brain damage sustained by the chemical abuser depends to a large degree upon the drug(s) utilized, their purity and the frequency and duration of abuse. When a head injury occurs after chemical abuse, pre-existing biochemical and structural damage to the brain is added to that caused by the head injury itself and complicates the clinical picture. Rumbaugh & Fang (1980) make this point very dramatically in their presentation of 6 case studies where drug abuse directly caused head injuries.

As evidence accumulates, it is becoming clear that many individuals who sustain head injuries have histories of other head injuries. In the Tobis et.al. study (1982), for example, 15 of 75 patients had a previous history of head trauma. The Santa Clara Valley Head Injury Rehabilitation Project (1982) reported 11.3% of their sample had previous histories of head injury. It may well be that the previous head injury led (directly or indirectly) to chemical abuse or that chemical abuse was implicated in causing previous or subsequent head injuries.

Confounding the Picture: Acute care

A number of studies have commented on the difficulty of making a

differential diagnosis when a head injury is accompanied by moderate to high levels of blood alcohol or drugs at the time of the injury. The behaviors noted following acute intoxication and overdose are very similar to those following head injury (lethargy or agitation, confusion, disorientation, respiratory depression, etc.). It appears that in some emergency rooms, patients may be discharged with a diagnosis of intoxication when they have also sustained an undiagnosed head injury. Gallagher & Browder (1968) noted that in one-third of 167 patients, alcohol obscured changes in consciousness, leading to misdiagnosis or delayed diagnosis. In 21 of the patients a subdural hematoma was only diagnosed at post-mortem. Galbraith (1976) reports similar diagnostic problems.

Once the acute medical emergency has passed, there is usually time to collect background data on the injured person. When the family and significant others are interviewed they may deny a history of chemical abuse or, in such a stressful time, truly forget that the problem existed. In some instances, the physician may fail to specifically ask about chemical use or abuse; in other cases, the family may be unaware of the extent of the problem or its very existence. In any event, it is clear that many hospital records do not mention chemical abuse histories where clear evidence for such exists.

Within the acute care setting, the stage may inadvertently be set for later problems with chemical abuse. Individuals who experience seizures (or who are at high risk to do so) may be started on seizure prophylaxis. When combative or aggressive behavior is exhibited, chemical restraints may be used for control. Physicians may prescribe medications to induce sleep or decrease pain. The sedative effect of many medications may significantly decrease levels of cognition and make the head injury appear different and/or more serious than it objectively is.

Cracks in the Window: Acute Rehabilitation

By the time the head injured individual enters a rehabilitation setting, physiological withdrawal from recreational drugs or alcohol, if present at the time of injury, has been completed. Unfortunately, psychological dependency has not been addressed so the problem continues to pose an underground threat. The rehabilitation facility may be unaware of pre-existing problems in this area since neither patient nor family members are likely to voluntarily admit to such problems for fear of making the patient appear a poorer candidate for rehabilitation; accompanying medical records may not include this information.

Entry into the rehabilitation setting frequently coincides with or initiates significant changes in prescribed medications as health care professionals begin to address long term issues such as seizure control, continence and spasticity. Comprehensive medical, physical and psychological assessments are completed and predictions about prognosis are relayed to the injured individual and/or family.

In the rehabilitation setting the head injured individual interacts with other individuals who may have histories of drug and alcohol

abuse. In addition, the relative social freedom of many rehabilitation settings allows drugs and alcohol to be introduced or re-introduced into the environment of the head injured individual. Home passes may begin and peers may visit, some of whom may be chemical users.

Of critical importance is the fact that a number of myths exist about the positive effects of drugs, especially marijuana, on a variety of medical problems experienced after head injury. The patient grapevine frequently communicates that such substances decrease spasticity, ataxia, and dysarthria. As a consequence, even the individual who has no history of drug use may experiment with such substances in an attempt to relieve troublesome symptoms. Despite the increased chance of exposure, the rehabilitation setting is quite sheltered and chemical abuse is unlikely to present a significant problem at this point in recovery.

Resuming the Pattern?: Community Care

Once individuals who have sustained head injuries are discharged into the community, opportunities to resume previous relationships and behavior patterns surface. With the structure of the rehabilitation setting withdrawn, the individual has significantly more free time to fill and less activities with which to fill that time. In many cases, former friends rarely visit. While family members eagerly fill the time initially, many of them soon return to their own lives out of economic and social necessity.

Physical, cognitive, emotional and behavioral limitations frequently preclude many favored pre-injury activities. Since the cognitive and physical requirements for successful drug and alcohol abuse are minimal, such behaviors are readily accessible to even severely injured individuals and may well provide both a link with the past and an entre into peer groups. Individuals who previously refused marijuana, alcohol or other drugs may now accept such substances in an attempt to be "one of the guys".

Since most moderately to severely head injured individuals are unable to return to work for extended periods of time (if at all), role reversals and decreased self-esteem become common problems. It is at this point in the recovery process that depression, frustration and boredom may begin to surface. Within the unadapted home and community environments, the full impact of various deficts may be experienced for the first time. Rather than deal with the emotional consequences of such awareness, the injured individual may well seek refuge in the bottle, especially if such a pattern existed in the past. Unfortunately, it has been well documented that tolerance for alcohol is decreased following head injury so even minimal consumption may rapily produce intoxication.

For most individuals, consumption of drugs and/or alcohol entails more than an attempt to reach a physiological high: the social settings in which drug and alcohol are consumed are far different from those of the workplace and community at large. Of critical importance is the fact that members of the drug culture are usually more accepting of

cognitive and physical limitations than those in the mainstream culture. In sharp contrast to the rejection experienced by head injured individuals in other situations, members of the drug culture extend a warm and friendly welcome.

The individual who is left with moderate to severe physical and cognitive deficits is frequently unable to independently find sources of drugs or alcohol. Family members, however, may feel uncomfortable denying alcohol to an adult who was previously allowed to drink. The rationale may be "everything else has been taken away; I can't take away that one remaining pleasure." Which is understandable but ignores the fact that tolerance for alcohol is decreased following a head injury and that alcohol, even in small amounts, further decreases cognitive and physical functioning and lowers the seizure threshold. So the memory-impaired individual may rapidly forget consuming alcohol and may have a seizure as a side-effect. In this framework, it may be easier for the caregiver to refuse alcohol.

Those individuals with less severe disabilities may well be able to obtain drugs and alcohol independently. When unsupervised in the community, such substances may be offered to the injured individual. Since many individuals who have sustained head injuries have extremely limited financial resources, they may be unable to purchase such items or may do so at the expense of more essential resources. Head injured individuals have been known to purchase a variety of harmless substances in the mistaken belief that they were buying marijuana: they fall easy prey to unscrupulous drug dealers and pushers.

It is also important to note that the deficits which commonly follow head injury are such that the affected individual may well be questioned and/or arrested by local authorities as drunk or high: slurred speech, unsteady gait, poor memory, and altered moods can quite easily be misinterpreted by uninformed officers. If such situations recur, individuals who have sustained head injuries may soon feel "I got the name, I might as well have the game."

DETECTION

Given the memory deficits experienced by many individuals who have sustained head injuries, expectations of accurate self-reporting of chemical abuse may be unrealistic. The head injured individual may truly not recall having consumed inappropriate chemical substances or may underestimate amounts consumed. At the same time, however, cognitive and behavioral limitations make it less likely that the abusing individual will be able to successfully hide patterns of chemical abuse.

For those involved in providing supervision to head injured individuals, detection of drug and/or alcohol abuse may be quite difficult: symptomatic behaviors following chemical abuse are very similar to those seen in head injured individuals (unsteady gait, decreased memory, uninhibited behavior, euphoria, sleep disturbance, altered appetite, visual disturbances, etc.). Nevertheless, any drug or alcohol effects are superimposed upon the injured individual's typical post-injury cognitive, physical, emotional and behavioral

patterns.

Therefore detection becomes a process of carefully noting decreases in functional abilities which are not explainable on any other basis and which coincide with time periods where alcohol or drugs might have been consumed. It is critical, however, to ensure that such functional decreases are not explainable in terms of acute illnesses (e.g. respiratory infections, hydrocephalus, development of seizures) or newly instituted medications.

On a less sophisticated level, one need only note the odor of alcohol or marijuana on the breath of the injured person or episodic nasal congestion and irritation combined with euphoria in the case of cocaine, to detect abuse of those substances.

PREVENTION

Given the fact that it is extremely difficult to alter established patterns of chemical abuse in individuals who have not sustained head injuries, it is not suprising that the same problem is experienced when working with individuals who are head injured. Since many individuals who sustain head injuries are unable to be competitively employed, the threat of job loss is an empty one. Given social norms which exert strong pressure on family members to take care of individuals who are ill, threats to remove family support are rarely credible.

Repeated attempts to "persuade" the injured individual to avoid chemical substances are usually unsuccessful. This is largely attributable to the kinds of cognitive and behavioral deficits typically found after head injury: decreased judgment and reasoning; impaired abstraction; decreased generalization ability; and impaired memory. Many individuals who have sustained moderate to severe head injuries vehemently deny the existence of any disabilities and feel attempts to change pre-injury behavior are unnecessary and inappropriate.

Probably the best way to prevent chemical abuse following head injury is to ensure sufficient meaningful relationships and activities to maximize quality of life: if there are no voids, there will usually be no attempts to fill them with chemicals. While it is impossible to force others to interact with head injured individuals, caregivers can decrease social isolation by using appropriate behavior management techniques to maximize the social behavior of the head injured individual. Exploration of community services such as support groups, YMCA/YWCA, UCP, adapted recreational services, and community colleges, may aid in the search for appropriate social opportunities.

Wherever possible, the individual who has sustained a head injury should be involved in active rehabilitation attempts to remediate deficits and to ensure maximal recovery. Once the individual's medical status is stable, continued reliance on the medical model may encourage dependency upon medical approaches to deficit remediation, including use of chemicals for behavior control. At that point in the recovery process, cognitive and behavioral rehabilitation approaches

are more likely to be successful in preventing chemical abuse since they require injured individuals to accept responsibility for their own behavior, provide consistent objective feedback on performance, and more directly address the long term deficits which lead to chemical abuse.

Although head injured individuals almost invariably fail to recognize the need for supervision, it is clear that such control over their environment is often necessary. Caregivers who are aware of chemical abuse problems need to ensure that cues to engage in such activity are withdrawn from the environment. Alcohol may need to be removed from the house or stored in locations which are inaccessible to the injured individual. This may also include denying opportunities for social relationships with pre-injury friends who are known to use and/or abuse chemicals. Obviously, the caregiver becomes the "heavy" when such tactics are required but there is no reasonable alternative in such situations. Reasonable limitations on access to funds may be necessary to prevent the purchase of chemical substances.

The physical and medical deficits following head injury are frequently so wide-ranging that multiple physicians are involved in diagnosis and management. Therefore, to forestall the misuse or abuse of prescription drugs, it is critical that a single physician assume responibility for medication management. Such a practice minimizes undesirable side-effects of powerful medications and ensures continuity of care. Adequate monitoring of medication consumption to ensure that prescribed schedules are followed, however, remains the responsibility of the head injured individual or caregiver. This is especially true of seizure medications, which have been reported as having a relatively high rate of non-compliance. Many head injured individuals reject these medications because of their sedative effect: even when taken in therapeutic doses, they are known to decrease attention and concentration, impair memory, and otherwise negatively affect cognition. Nevertheless, there are multiple reports in the literature which implicate changes in or withdrawal from seizure medications as precipitating seizures (including status epilepticus) when alcohol is consumed. The nature of such events has been well-stated by Victor (1979):

> It should be noted that in patients with idiopathic and posttraumatic epilepsy, the onset of which frequently antedates the patient's alcoholism, the seizures are made worse and more frequent by drinking. In these patients, seizures may be precipitated by a relatively short period of intoxication, e.g. an evening or weekend of heavy social drinking, but the factor of withdrawal is still operative, in that the seizures tend to occur not when the patient is intoxicated but the morning after, i.e. in the "sobering-up" period.

In many instances, it will be necessary for family members to administer and control prescription medication to ensure compliance. When there is any possibility of non-compliance, it is worthwhile for a responsible individual to periodically count the actual number of pills remaining and to monitor prescription refills

An area in which prevention is especially critical is abuse or misuse of non-prescription drugs. With over 500,000 separate compounds available, many of which have not been carefully evaluated and which have not been proven effective, the range of choices is almost unlimited. Nevertheless, such products should be avoided by individuals who have sustained head injuries unless authorized by their primary physician. Family members need to carefully supervise such substances within the home to ensure that abuse does not occur and result in increased problems for the individual who has sustained a head injury.

CONCLUSION

Chemical abuse can frequently be prevented, even when it was present prior to the injury. While many individuals with a history of chemical abuse may benefit from formal drug and alcohol rehabilitation programs, such programs are not designed to directly address the physical and cognitive limitations of those who have sustained head injury. Should enrollment in such a program be considered, it is essential that program personnel be fully apprised of the medical problems of the head injured individual to ensure that medical needs are met.

Family members must, however, be aware that some individuals who sustain head injuries will continue with or develop patterns of chemical abuse which are intractable. While this is an unfortunate situation, feelings of guilt and failure are not justified if reasonable attempts, including enlisting professional assistance if necessary, have been made. It is unrealistic to expect all individuals who have sustained head injuries to avoid chemical abuse when it is so prevalent in our society.

Although the professional literature has generally failed to address the problem of chemical abuse in head injury populations, family members and individuals who have sustained head injuries are painfully aware of the magnitude of the problem. To a large extent, the failure of the medical and rehabilitation community to recognize this problem can be directly attributed to the lack of long term care and follow up of individuals who have sustained head injuries and to the lack of meaningful alternate activities in the community. Until those who are intimately involved in head injury prevention, treatment and rehabilitation become more aware of the problem, it is likely to continue to be ignored, with potentially disastrous consequences.

Nothing in this paper should be construed to imply that all individuals who sustain head injuries are alcoholic and/or junkies. The majority of head injured individuals have no chemical abuse problems and will not develop them. But ignoring a significant problem does not make it go away.

References:

Cope, D. N. Patient characteristics. In Head injury rehabil-

itation project: Final report. San Jose, Calif.: Institute for Medical Research at Santa Clara Valley Medical Center, 1982.

Galbraith, S. Misdiagnosis and delayed diagnosis in traumatic intracranial haematoma. Br. Med. J. 1: 1438-1439, 1976.

Gallagher, J. P. & Browder, J. Extradural haematoma. Experience with 167 patients. J. Neurosurg. 29: 1-22, 1968.

McLaughlin, A. M. & Schaffer, V. Rehabilitate or remold?: Family involvement in head trauma recovery. Cognitive Rehabilitation 3: 14-17, 1985.

Rimel, R. W. & Jane, J. A. Characteristics of the head-injured patient. Chapter 2 in Rosenthal, M., Griffith, E. R., Bond, M. R., & Miller, J. D. Rehabilitation of the Head Injured Adult. pp. 9-21.

Rumbaugh, C. L. & Fang, H. C. H. The effects of drug abuse on the brain. Medical Times: March 1980, pp. 37-52.

Schuckit, M. A. Drug and alcohol abuse: A clinical guide to diagnosis and treatment. New York: Plenum, 1979.

Tobis, J. S., Puri, K. B. & Sheridan, J. Rehabilitation of the severely brain-injured patient. Scand. J. Rehab. Med. 14: 83-88, 1982.

Victor, M. Neurologic disorders due to alcoholism and malnutrition. Pp. 1 -83 in Baker, A. B. (Ed.) Clinical Neurology. New York: Harper & Row, 1979

Prepared for presentation at "Survival--What Next?", Third Annual Statewide Meeting of the Washington State Head Injury Foundation; Bellevue, Washington; October 12, 1985.

Joint Interim Committee on Head Injury

Report and Recommendations

January, 1985

TO THE MEMBERS OF THE EIGHTY-THIRD GENERAL ASSEMBLY:

In accordance with responsibilities set out in Senate Concurrent Resolution No. 12 enacted by the 82nd General Assembly, Second Regular Session, 1984, the duly appointed members of the Joint Interim Committee on Head Injuries respectfully submit their report and recommendations.

Senator Edwin L. Dirck, Chairman
District 24

Representative Marvin Proffer
District 158

Senator Ralph Uthlaut
District 23

Representative James (Jay) Russell
District 75

Senator Harry Wiggins
District 10

Representative Sandra Reeves
District 30

Senator James Murphy
District 1

Representative Sheila Lumpe
District 88

Senator Phil Curls
District 9

Representative Derek Holland
District 49

Dr. Don L. Gann, Director
Division of Vocational Rehabilitation, for Dr. Arthur L. Mallory, Commissioner
Department of Elementary and Secondary Education

Carland Land, Deputy Director
Health Resources-Division of Health
for Barrett Toan, Director
Department of Social Services

Susan Vaughn
Assistant to the Director, for
Dr. Paul R. Ahr, Director
Department of Mental Health

Rich Heiser, Director
Missouri Protection and Advocacy Council

COMMITTEE STAFF

Toni Messina	Senate Research Analyst
Daniel Landon	House Research Analyst
Betty Fischer	Secretary to Senator Dirck
Leorae Korsmeyer	Administrative Secretary Senate Research Staff
Mary Lou Scott	Recording and Transcribing

TABLE OF CONTENTS

THE JOINT COMMITTEE ON HEAD INJURIES

State legislators formed the Joint Committee on Head Injuries with the passage of Senate Concurrent Resolution No. 12 during the 82nd General Assembly, Second Regular Session, 1984. Citing the need to recognize traumatic brain damage as a distinct category of disability, the resolution directed committee members to study the extent and effects of head injury in Missouri. The resolution further required the committee to meet with interested groups, consider creating or expanding services for head injured persons, and report its recommendations to the 83rd General Assembly.

Chaired by Senator Edwin L. Dirck, the joint committee was composed of five senators, five state representatives, and four officials representing state agencies and services. All were chosen for their knowledge of issues and programs most likely to affect head injured persons. Legislators, for example, contributed their years of experience with state appropriations, public health and welfare, insurance matters, education, and employment practices. Agency officials complemented this experience with their knowledge of rehabilitative, referral, and social service delivery.

Assisted by the National Head Injury Foundation, Missouri Association, the committee held public hearings in five different cities.

August 15	St. Louis - Forest Park Community College
August 17	Cape Girardeau - Southeast Missouri State University
August 22	Kansas City - Children's Mercy Hospital
August 23	Springfield - Southwest Missouri State University
September 4	Columbia - University of Missouri

Of the 91 witnesses who testified to the committee, 42 percent were relatives of head injured persons, 38 percent were medical or other professionals, and 20 percent were head injured individuals.

Problems of the Head Injured

Severe head injury is defined as "serious traumatic injury to the brain requiring extensive services over an extended period of time."[1] Although many injuries occur as results of automobile or industrial accidents, brain damage also can be caused by physical abuse, falls or conditions that deprive the brain of oxygen.

Witnesses testifying before the Joint Interim Committee on Head Injury noted that each incident of brain trauma is unique - severity of injury, cognitive and behavioral problems suffered, and available financial and rehabilitation support vary with each episode. Nevertheless, while individual testimony varied with regard to specific problems, a common theme became evident during the committee's investigation. Those suffering head injuries are not provided with services and programs which would maximize their recovery. In many cases, this lack of services and programs prevents head injured individuals from being reintegrated into the community as productive citizens.

There are several reasons why appropriate programs to maximize recovery are not available for victims of head injuries.

Increased Number of Head Injury Victims

The improved ability of the health care system to treat severe head trauma has contributed to the lack of programs by increasing the number of people needing such programs. Before the mid-1970's, few victims of severe head trauma survived. Since then, an increasing percentage have been kept alive through the use of Level One Trauma Centers equipped and staffed to treat severe neurological damage.[2] Better understanding of the brain and new medical technology allow physicians to provide better emergency and acute care for victims of brain trauma. Similar advances in the rehabilitation of physical problems caused by brain injury also have increased the number of persons who recover sufficiently to require further long-term rehabilitation and community services. More people, therefore, are being discharged from hospitals and rehabilitation centers into the community.

Limited Availability of Specialized, Long-term Rehabilitation

Acute care and physical rehabilitation for victims of severe head trauma commonly last from three to eight months. Unfortunately, discharge from medical or rehabilitation

facilities does not mean the head injured person is cured. Additional long-term rehabilitation lasting from six months to two years often is required. An important component of such rehabilitation is cognitive retraining, a therapy which involves teaching the uninjured parts of the brain to perform functions formerly performed by the damaged tissue. It is a highly specialized and relatively new form of rehabilitation. Behavioral counseling and modification also may be necessary for the rehabilitation of head injured individuals.

Cognitive retraining is scarce and expensive. According to testimony, few rehabilitation facilities in Missouri offer long-term cognitive and behavioral therapy in conjunction with residential programs. Those facilities which are available generally must discharge their patients before rehabilitation is completed because of inadequate funding by third-party payors or governmental programs. Out-of-state facilities specializing in the treatment of head injuries, according to witnesses' testimony, can cost up to $5,000 per month. Such treatment is available only to those with extensive insurance coverage.

Existing State Programs are not Adequately Treating the Head Injured

Missouri's Department of Elementary and Secondary Education and Department of Mental Health currently offer the state programs most commonly used by the head injured individual. Three complaints were commonly expressed regarding the services provided by these agencies. First, programs are not designed for the specialized deficiencies of the head injured and, as such, are ineffective in improving those deficiencies. Second, counselors, evaluators, caseworkers and special education teachers do not have appropriate training or knowledge of the problems of head injured individuals. Third, state programs have specific eligibility guidelines which often exclude the head injured person.

For example, a child may be served by the education department's special education section. If a head injured person of school age is able to return to school, he or she often is evaluated by those who are unfamiliar with head trauma using tests designed for persons with mental or behavioral disabilities. As a result, the child may be placed in a special education program even though he or she may have a normal I.Q. The special education classroom, as a rule, is not equipped to provide the kind of rehabilitation needed by the head injured child. Special education services, if received, may continue until age 22.[3]

A head injured person may qualify for programs for the

developmentally disabled administered by the Department of Mental Health if the injury originated before age 18. In addition, the Department of Elementary and Secondary Education's Division of Vocational Rehabilitation may recommend placing other head injured individuals in sheltered workshops designed for the mentally retarded.

The only state program available for adults suffering injuries is administered by the Division of Vocational Rehabilitation. The division provides training and assistance to the vocationally handicapped who appear to have a good chance of success in learning the skills necessary to hold a job. Training is provided to the level that vocational rehabilitation counselors think is appropriate; therefore, witnesses expressed a need to educate counselors concerning head injury.

In general, state programs are not organized to provide a coherent system of services which ensures that the head injured person receives rehabilitation and training that are both continuous and specialized enough to be effective. Program eligibility guidelines, in fact, often preclude the delivery of needed services.

It is possible, for example, to be too old for special education services; injured too late in life to qualify for developmental disability programs and services; too impaired for vocational rehabilitation; not impaired enough for nursing care; too poor to afford out-of-state rehabilitation; financially ineligible for Medicaid; or have an I.Q. too high to qualify for programs for the mentally retarded. (See Appendix D for eligibility requirements for state programs commonly used by the head injured.)

Lack of awareness of the specialized needs of the head injured is not exclusively a governmental problem. Witnesses described similar shortcomings among some health care professionals and hospitals. They felt that the health care system should transmit information to head injured patients about appropriate community services after discharge from acute care and rehabilitation facilities. Some hospitals and doctors do this already; some do not. Witnesses also expressed a need to discourage hospitals and physicians from discharging head injured patients from acute care facilities to nursing homes without proper evaluative tests.

Lack of Financial Support

Head trauma almost invariably involves huge medical bills. Patients may require many months of acute care and rehabilitation; bills can total hundreds of thousands of

dollars. Witnesses indicated that financial support for head injury victims and for their families is necessary to provide services and help cover expenses.

Current Medicaid policies, witnesses testsified, limit the head injured persons's recovery opportunities to those found in acute care settings or in rehabilitation facilities. The program does not reimburse the cost of outpatient speech or occupational therapy, nor (unless a case is exceptional) does it help pay for long-term, specialized rehabilitation in the home. When the injured person does use these services as an inpatient, Medicaid reimbursement normally is not adequate to cover the extensive hospital charges associated with traumatic injury.

Some financial aid is available through Crippled Children's Services, a program administered by the Department of Social Services' Division of Health. Established in 1959, the program helps financially eligible children under age 21 obtain medical, rehabilitative and other services. To qualify, a child must be crippled or suffer from a condition which leads to crippling. These guidelines are broad enough to accommodate head injured children, but program funding is limited.

Recent changes in state policy, however, will make more resources available to disabled children under age 21. Because of a waiver of federal Medicaid rules, Missouri will be able to reimburse the cost of rehabilitative therapies in home as well as in institutional settings. Eligible persons, including those who are head injured, can remain in the program past age 21 as long as they continue to meet income guidelines and if they qualify as permanently and totally disabled.

Witnesses suggested that mandatory automobile liability insurance could create more resources for persons injured by uninsured motorists. But, although helpful, these initiatives can reach only a fraction of Missouri's head injured population.

Effects of the Current Service Delivery System

These are the reasons for the lack of programs and services to maximize recovery - what are the effects? Most head injured Missourians find that after physical rehabilitation has been completed they have only a few options available to them.

First, they can be sent home to live with their families who often must provide full-time care and rehabilitation for them. Testimony indicated that this is a highly stressful situation -- there is little respite for families who must provide such constant care. The head injured victim may want to live away from his or her parents but is unemployable and incapable of independent living.

- Second, head injured individuals occasionally go into sheltered workshop settings designed for the mentally retarded. This may be inappropriate because severe head trauma does not necessarily impair the victim's I.Q. or his or her ability to remember personal capabilities prior to injury. Thus, head injured persons or their families often resent placement in programs designed for the mentally retarded.

Third, they can enter nursing homes or other residential or long-term care facilities. But appropriate rehabilitation or opportunities for developing socialization or independent living skills may not be available. In geriatric settings, for example, younger head injured persons are likely to suffer psychological and social problems that further complicate their conditions.

Failure to provide services that maximize recovery not only creates personal hardship for head injury victims and their families. The public also assumes a significant financial burden when those affected by head injury lose or have no capacity to regain their former productive capacities.

The head injury victim usually is under age 35. Without opportunities for appropriate rehabilitation therapies, he may be institutionalized in a nursing home or mental health facility for the rest of his productive life. Unless he has adequate insurance coverage or financial resources at his disposal, he must turn to the state or federal government for medical assistance.

Depending upon his level of recovery, a head injured person who can return to work may have to accept less responsibility, work fewer hours and earn less pay than he did before his injury occurred. Even these ventures can fail, however, when recurring cognitive and behavioral problems prevent successful workplace re-entry.

Families who care for head injured relatives in their homes face similar problems. When professional nursing or rehabilitative services are available or unaffordable, many spouses and parents leave their jobs to attend full time to the injured person. Diminishing family resources, in turn, can lead rapidly to a need for medical and other forms of public assistance.

---

[1]Definition from National Institute of Handicapped Research, Office of Special Education and Rehabilitative Services, U. S. Department of Education.

[2]The Level One Trauma Center is equipped and staffed to provide or gain access to all general and special medical services. It has the capability of managing complicated fractures and head, thoracic, visceral and vascular injuries. Facilities and physicians certified by their respective professional boards are available 24 hours a day. Level One Trauma Centers exist in St. Louis, Kansas City and Columbia. (Source: Missouri Division of Health, Hospital Resources for Optimal Care of the Injured Patient, February 1981.)

[3]Special education services are available under P.L. 94-142, the federal Education for All Handicapped Children Act of 1975.

Witnesses' Proposals for Change

Witnesses discussed solutions as well as problems during the joint committee's hearings. Suggestions ranged from subtle matters affecting attitudes toward recovery, to comprehensive changes in state rehabilitation programming. Although witnesses described more than forty different needs to committee members, a consistent thread of agreement and acceptance unified testimony gathered at all sessions.

These needs and proposals for change fall into the eight broad categories listed below. Their order, which indicates their priority as generally expressed by witnesses, was measured by the number of times such proposals were mentioned. (See Appendix C.)

Appropriate Placement

Because it is likely to determine a head injured person's potential for recovery, appropriate placement after hospital discharge is critical. Proper testing and evaluation should guide the person to specialized rehabilitation and away from services intended for other groups. This specialized care must include cognitive retraining and help for the memory, speech and behavioral problems common to head injured persons.

A system of therapies, designed to move the head injured person toward his highest level of independence, should be offered in a variety of settings. Acceptable options include: a long-term rehabilitation center suitable for persons leaving hospitals; in-home therapies for those ready to re-enter family settings; day programs for persons preparing to enter vocational rehabilitation; and transitional living arrangements suitable both for those needing continued guidance and for others preparing for full independence.

The state could test systematic therapies by establishing a pilot project at the University of Missouri's Rusk Rehabilitation Center in Columbia. By cooperating with affiliated medical and mental health care institutions, Rusk could manage treatment, rehabilitation and counseling for head injured persons and their families. Successful tests could lead to permanent state plans and support.

Government Response to Head Injury

Missouri can improve its public response by distinguishing head injury from other behavioral, mental and developmental disabilities and by adjusting existing services to meet different needs. Specially designated officials, either at a

central entry point or in each agency likely to serve the head injured, could guide persons to appropriate programs and monitor the quality of their progress. A designee within the Department of Elementary and Secondary Education, for example, could assure that vocational rehabilitation counselors recognize the characteristics of head injury; help administrators adjust therapies; place persons in available slots; and counsel families during the rehabilitation period.

The state must do more to finance the care of head injured persons and must make resources available to more families. To promote consistent eligibility for government assistance, Missouri should adopt a clear, legal definition of "brain damage secondary to head injury" for use by all appropriate state agencies. Medicaid administrators should raise reimbursement rates, extend coverage for long-term therapies and expand the program to include payment for cognitive, psychosocial and life-skill retraining.

Legislators should support converting the Missouri State Chest Hospital to a state rehabilitation center. Located in Mt. Vernon, the facility is a well-maintained but under-used resource that already serves patients with chronic conditions. Adequately staffed and organized, the hospital could serve Missourians and other head injured persons from bordering states.

Prevention

The state can limit the need for costly services by emphasizing the prevention of head injury. Since most traumatic brain damage occurs as a result of automobile accidents, Missouri should enact mandatory seat belt laws for all citizens and should vigorously enforce existing child restraint laws.

State officials also should make persons aware of the effects of head injury through continuing public information campaigns. The Division of Health, which already reaches some school age children with its spinal and head injury presentations, should attempt to reach all school districts. The Department of Mental Health, in addition, should address head injury in its alcohol and drug abuse prevention programs.

Others who can ease the effects of head injury include child abuse and neglect administrators and juvenile court officials. Caseworkers and other evaluators must recognize the signs of head injury, monitor the pattern of this abuse and document its persistence. Court officials must assure that children are not left in environments where head injury can occur.

Information and Education

Services for the head injured suffer because Missouri lacks a base of accurate, epidemiologic data. To increase knowledge of the extent of head injury in this state, the legislature should enact a mandatory disability reporting system based on the International Classification of Diseases (ICD).

The state must assure that medical professionals, public administrators and educators recognize head injury and appreciate the unusual problems it poses. College curricula should include training in the specialized needs of the head injured. Agencies should train their counselors and caseworkers to administer appropriate tests, to assess neuropsychological evaluations and to be aware of neurobehavioral abnormalities. Special educators should know how to teach injured adults and should be trained in the methods of cognitive rehabilitation.

Proper training of medical professionals will guarantee better recovery potential for many head injured persons. Missouri should fund initiatives that help doctors recognize and refer head injuries to appropriate specialists and that train specialists in methods promoting improved, consistent rehabilitation and recovery.

Support Services

There must be help for those who deal each day with the pressures of recovery from head injury. Rehabilitation for the injured person should include association with and support from others who have similar needs. Services such as subsidized transportation, educational tutoring and loan libraries of communication devices can help restore lost independence.

Families, economically and socially disrupted, need thoughtful counseling during all phases of their loved one's recovery. Adequate referral networks should guide them to assistance. Services such as temporary respite care and temporary family housing during long rehabilitative stays can ease some burdens.

Insurance Practices

Although some insurance plans can accommodate the expense of head injury treatment and recovery, many policies lack flexible coverage. Legislators should require third party payors to offer coverage for cognitive retraining and other practices and devices used to rehabilitate injured persons. Coverage should be available in outpatient settings and at levels that reflect today's health care costs.

Research and Treatment

Because early intervention is so critical to recovery, Missouri should see that Level One trauma centers are available in all areas of the state. More resources must be diverted to specialized acute care and to research that focuses on improved rehabilitation methods. The legislature should consider requiring appropriate and speedy patient referrals to head injury specialists.

Personal Rights

Even during recovery, head injured persons remain vulnerable to abuse of their rights. The state should require that an insurance settlement resulting from an injury claim be used only for the benefit of the injured person. He should be protected from discrimination in employment on the basis of physical or emotional disability. If under guardianship, the person's status should be reviewed regularly as his rehabilitative progress continues.

At times, however, the injured person's rights may affect the health and safety of others. For this reason, anyone known to have suffered severe head trauma should reapply for his vehicle operator's license and be tested for perceptual ability.

Committee Recommendations

The problems of the head injured are so diverse, and the array of proposed solutions so broad, that it is difficult to design a comprehensive legislative package at this time. In fact, some ideas need thorough fiscal and technical analysis before statutory or regulatory changes can be considered.

It is possible, however, to address some broad goals now because appropriate mechanisms are in place, because timing is favorable or because these initiatives would require relatively little new money. The Joint Committee on Head Injury, therefore, proposes actions that:

1) Initiate or expand efforts to prevent head injury;

2) Establish a framework for comprehensive, sequential head injury rehabilitation; and

3) Assure access to continuing, informed advice on matters affecting Missouri's head injured population.

Head Injury Prevention

Preventive measures are, literally, the best medicine for easing the suffering caused by head injury. Equipped with knowledge and encouraged to adopt prudent habits, Missourians actually can lower their chances of sustaining serious head or brain damage. For each incident that does not occur, one more family can avoid the staggering personal and economic loss associated with head injury.

Recommendation No. 1: The General Assembly should enact legislation requiring persons to use safety belts when they operate or ride in passenger cars on Missouri roads.

Of the disabling injuries that occur as a result of auto accidents each year, it is estimated that one third involve damage to the head or brain. In fact, in the United States, injury sustained in auto accidents is the leading cause of epilepsy. Research has shown, however, that safety belt use can cut the number of serious injuries by 50 percent and can lower fatalities by 60 to 70 percent.

These effective preventive tools are widely available and cost-efficient. All cars manufactured since 1964 are equipped with some sort of safety restraint device - either a lap belt or, if built after 1968, a shoulder harness. It costs the driver and passengers nothing to use their safety belts.

Recommendation No. 2: Missouri should continue to support existing educational programs designed to prevent disabling injuries.

Missouri's Spinal Cord and Head Injury Prevention Project attempts to lower the incidence of disabling trauma. Because these injuries are most likely to occur as results of auto accidents involving teenagers and young adults, state health educators reach their audience by visiting junior high and high schools.

Since the project started in 1980, the consequences of serious injury have been described to 31,150 teenagers, in 60 schools, in 35 counties. Missouri should maintain or increase its current level of support to fulfill all requests for program presentations and to reach all members of the target group every three years.

Comprehensive Rehabilitation

Although preventive practices can reduce their frequency, head injuries will continue to disable some Missourians each year. It is necessary, therefore, to maintain rehabilitation opportunities suited to all levels of patient recovery. Missouri should establish a sequence of pilot projects, in a variety of settings, that are designed to move the head injured person toward his highest level of independence. Successful programs, in turn, can be adopted by public and private service providers in other locations.

Recommendation No. 3: Using the facilities and professional resources available at the University of Missouri-Columbia Hospital and Clinics, the state should support a pilot program of systematic, short-term rehabilitation for head injured persons.

It is proven that early, skilled, professional intervention lays a foundation for recovery of the seriously head injured person. Because this trauma is so debilitating, the individual needs access to cognitive, retraining and other specialized therapies to regain his most basic skills. This rehabilitation must begin upon hosptial discharge and continue until the injured person is prepared to function in other settings.

Rusk Rehabilitation Center, part of the University of Missouri-Columbia medical complex, has the staff and experience needed to study short-term intervention technologies. The center now serves head injured persons whose average length of stay is 60 days. Because this group is in place, Rusk can

quickly develop systematic methods for assessing patient and family needs, testing therapy options, monitoring patient progress and counseling after discharge. The project should produce a model for serving patients and families during the crucial, early rehabilitation period.

Recommendation No. 4: The General Assembly should enact legislation that converts the Missouri State Chest Hospital into the Missouri Rehabilitation Center, a facility that will be able to provide transitional rehabilitation in a simulated work and home environment.

Many persons who complete initial periods of rehabilitation need more help before they can consider living independently. During this transition from facility to community, an individual might re-learn self-care and homemaking skills, adjust behavior problems that could prevent employment or continue other specialized therapies. Although a period of transitional living greatly improves an injured person's ability to resume independence, this recovery option is not available in Missouri.

The Missouri State Chest Hospital, if converted to a rehabilitation center, could fill this service deficiency. Located in Mt. Vernon, the complex includes a dormitory, single residential units and other buildings which can be used to simulate work and home environments. The hospital is equipped to provide medical care, rehabilitation therapies and other patient services. Professional staff is available on site or can be drawn from larger labor pools in nearby Springfield or Joplin. A 20-bed pilot project should be establisned now and subsequently evaluated for further expansion.

Recomendation No. 5: To allow head injured persons to resume independent living in their communities, Missouri should contract for locally-based transitional services.

Although not based in a facility, transitional rehabilitation opportunities in other settings may be available in a community and its surrounding area. Often, however, head injured persons and their families simply do not know where to find help. A community transitional living center, staffed by persons familiar with local resources, could direct clients to appropriate services. To avoid duplicating existing public and private efforts, the center would arrange these services through local provider contracts.

Columbia, Missouri is an appropriate trial ground for a community-based pilot project. The transitional center could help persons discharged from the Rusk facility and other local hospitals implement individual rehabilitation plans. Center

staff, in addition, would attempt to manage physical, social, vocational and other therapies for the client's overall benefit. Local contractual arrangements, similar to those used by other state agencies, could result in small group residential programs or in services at patient homes, at provider locations or in day care settings.

Continuing Advice

Recommendation No. 6: To assure that Missouri continues to address the needs of its head injured citizens, the Governor should establish, by Executive Order, a Head Injury Advisory Council.

Because there is no statutory mandate on their behalf, Missouri's head injured have no true advocates. The General Assembly has provided a forum for discussion, but others with more knowledge and experience must transform discussion into action. By forming a Head Injury Advisory Council, the Governor can encourage these actions and guarantee the head injured the same protection now enjoyed by other Missourians.

The council should be composed of 25 voting members representing both public and private interests. A designee from the Office of Administration could participate as a non-voting member. All members could serve until they resign or until they lose the positions that qualify them for participation.

The Governor should appoint 15 members - five panels of three appointees - drawn from the St. Louis, Kansas City, southwest, southeast and central Missouri areas. Each panel would include persons representing the head injured, family members and professionals in the field.

The council also should include one member from each of the following entities: the Senate; the House of Representatives; the Department of Mental Health; the Division of Health; the Division of Family Services-Medical Services section; the Division of Vocational Rehabilitation; the Division of Insurance; the Missouri Protection and Advocacy Council; the Governor's Committee on the Employment of the Handicapped; and the National Head Injury Foundation-Missouri Association. These persons would be selected by the bodies they represent.

As a working group, the council will initiate studies on specific proposals related to head injury. Members can be expected to thoroughly analyze advantages, disadvantages and costs related to each proposal and to seek executive and legislative support for the best ones.

The council will study and recommend action on the following items and on others it may later select.

1. Methods for identifying the extent of head injury in Missouri.

2. A statutory definition of "head injury".

3. Appropriate entry points for head injured persons seeking services from state agencies.

4. Rehabilitative placement opportunities which can be provided with public or private resources.

5. Methods for establishing and funding transitional living centers for the head injured.

6. Methods for advancing the practice and availability of cognitive retraining therapies.

7. Improved coverage by all third party payers for treatment and rehabilitation in institutional, in home and in other settings.

8. Protection of the personal and civil rights of head injured persons.

9. Head injury preventive education.

10. Opportunities for obtaining federal funds through the National Institute of Health Research (NIHR).

The full council should meet quarterly. Members should serve without pay but be reimbursed for costs they incur while conducting council business. To maintain accountability, the council should report annually to the Governor.

Appendix A

Senate Concurrent Resolution No. 12

WHEREAS, in the State of Missouri there are an estimated 10,000 head injuries annually which physically disable and intellectually impair some of our citizens for a lifetime; and

WHEREAS, in addition to those injuries, many of which produce physical, intellectual and emotional disabilities, more than 700 persons each year will die as a result of head injuries; and

WHEREAS, head injury is the major cause of death and disability among Missourians under the age of 35; and

WHEREAS, those figures clearly reflect a problem now recognized as the "Silent Epidemic"; and

WHEREAS, the state, federal and local government agencies, while providing services technically available to head injured persons, may not be meeting the needs of those so injured in even a minimal way because available service systems were designed for other types of disability and are inappropriate for head injury rehabilitation and care; and

WHEREAS, many head injured persons in Missouri are inappropriately placed in mental institutions, schools for the retarded, nursing homes or other programs or facilites that cannot provide the services needed for adequate rehabilitation achievement; and

WHEREAS, many head injury treatment programs are unnecessarily expensive and might be structured to provide better treatment at far less cost; and

WHEREAS, no statewide system exits to assist head injured persons in making the transition from dependent to independent living; and

WHEREAS, there is a need to recognize traumatic brain damage due to head injury, disease and anoxia as a separate and distinct category of disability;

NOW, THEREFORE, BE IT RESOLVED by the Senate, the House of Representatives concurring therein, that a joint interim committee be established to study and consider head injuries; and

BE IT FURTHER RESOLVED that the committee be composed of ten legislative members, five of whom shall be appointed by the President Pro Tempore of the Senate, five of whom shall be appointed by the Speaker of the House, and the Commissioner of Education or his designee, the Director of the Department of Mental Health or his designee, the Director of the Department of Social Services or his designee, and a member of the Missouri Protection and Advocacy Council; and

BE IT FURTHER RESOLVED that this committee be authorized to meet and act during the interim, to study the economic impact and emotional hardship of head injuries to the citizens of this state in order to carefully consider the need for additional or expanded programs to provide care and rehabilitation for those suffering from head injuries and for the families of such persons, to the end that all may be returned to useful and productive lives for the good of our state and nation; and

BE IT FURTHER RESOLVED that this committee be encouraged to meet and confer with groups interested in this activity, and/or to establish advisory groups who will gather and present materials to be considered by the committee; and

BE IT FURTHER RESOLVED that the committee be directed to prepare a report, to be submitted to the Eighty-third General Assembly, with recommendations for needed legislation or appropriations to assist with the treatment of head injured persons; and

BE IT FURTHER RESOLVED that the Senate members be reimbursed for their actual and necessary expenses incurred in the performance of their duty from the Senate Contingent Fund, that House members be reimbursed from the House Contingent Fund, and that the state officials be reimbursed from their respective offices; and

BE IT FURTHER RESOLVED that the committee be authorized to seek clerical, technical and bill drafting assistance from the Senate Research office, the House Research office, the Committee on Fiscal Affairs, or the Committee on Legislative Research.

Appendix B

Joint Committee on Head Injury

Witness Groups by Hearing Location*

City	Witness Groups: Professionals	Head Injured Persons	Relatives	Total Witnesses
St. Louis	5	4	14	23
Cape Girardeau	3	2	2	7
Kansas City	5	3	13	21
Springfield	6	6	3	15
Columbia	16	3	6	25
Total	35 (38%)	18 (20%)	38 (42%)	91 (100%)

*Includes only persons who attended hearings, who identified themselves as witnesses, and who spoke to the committee.

Appendix C

Joint Committee on Head Injury

Proposals for Change - Number of Times Mentioned by Witness Group

Proposal Category	Witness Group: Professionals	Head Injured Persons	Relatives	Total Times Mentioned
Appropriate Placement	31	1	30	62
Government Response	12	4	30	46
Prevention	18	2	5	27
Education and Information	8	1	12	21
Support Services	11	4	5	20
Insurance Practices	6	3	9	18
Research and Treatment	11	1	6	18
Personal Rights	1	3	1	5
No Specific Recommendations	6	7	5	18

Appendix D

State Programs Commonly Used by the Head Injured:

Eligibility Requirements and Statutory Definitions

Department of Elementary and Secondary Education

Division of Vocational Rehabilitation

A. Must have a disability
B. Disability must be a handicap to employment
C. There must be a reasonable expectation that services provided will lead to permanent employment

Division of Special Education

Must meet specific eligibility criteria in at least one of the following areas

(a) Learning disabled
(b) Behaviorally disordered/emotionally disturbed
(c) Mentally retarded
(d) Physically impaired
(e) Other health impaired
(f) Visually impaired
(g) Hearing impaired
(h) Deaf/blind
(i) Autistic

Definition of "handicapped" relating to sheltered workshops (§178.900, RSMo 1978)

> Handicapped person: a lower range educable or upper range trainable mentally retarded or other handicapped person sixteen years of age or over who has had school training and has a productive work capacity in a sheltered environment adapted to the abilities of the mentally retarded but whose limited capabilities make him nonemployable in competitive business and industry and unsuited for vocational rehabilitation training.

Department of Mental Health

Definition of "developmental disability" (§630.005, RSMo Supp. 1983)

A disability:
(a) Which is attributable to mental retardation, cerebral palsy, autism, epilepsy, a learning disability related to a brain dysfunction or a similar condition or conditions found by comprehensive evaluation to be closely related to such conditions or to require habilitation similar to that required for mentally retarded persons;
(b) Which originated before age eighteen; and
(c) Which can be expected to continue indefinitely.

Definition of "mental retardation" (§630.005, RSMo Supp. 1983)

Significantly subaverage general intellectual functioning (I.Q. less than 69) which:
(a) originates before age eighteen;
(b) is associated with a significant impairment in adaptive behavior.

EXECUTIVE ORDER
85-6

WHEREAS, there are an estimated 10,000 head injuries in the State of Missouri each year which physically disable and intellectually impair some of our citizens for a lifetime; and

WHEREAS, more than 700 persons each year will die as a result of head injuries; and

WHEREAS, head injury is the major cause of death and disability among Missourians under the age of 35; and

WHEREAS, the State of Missouri should assume a leadership role in the collection and dissemination of information about head injuries and the appropriate response of government and private groups to prevent them and treat those who suffer them; and

WHEREAS, the State of Missouri offers a wide range of services to persons with head injuries, and appropriate placement of head injured persons in these programs is critical to the individual's potential for recovery, and important to the state's desire to provide appropriate service in a cost-effective manner,

NOW, THEREFORE, I, JOHN ASHCROFT, GOVERNOR OF THE STATE OF MISSOURI, by virture of the authority vested in me by the Constitution and laws of Missouri hereby create and establish the Missouri Head Injury Advisory Council. The Council shall be composed of 25 members appointed as follows: 2 members of the Council shall be members of the House of Representatives and appointed by the Speaker of the House of Representatives, to serve for the remainder of their terms; 2 shall be members of the Missouri Senate and appointed by the President Pro Tem of the Missouri Senate, to serve for the remainder of their terms; and 21 members shall be appointed by the Governor, representing persons with head injuries, representing relatives of persons with head injuries, representing proprietary schools, professional groups, health institutions, private industry, and state agencies which administer programs regarding mental health, education, public health, public safety, insurance and medicaid. The appointment of individuals representing state agencies shall be conditioned on their continued employment in their respective agencies.

The Missouri Head Injury Advisory Council is assigned to the Division of General Services in the Office of Administration. Members of the Council shall receive no compensation for their service but shall be reimbursed for their actual and necessary expenses incurred in the performance of their duties. Members of the Council appointed by the Governor shall serve at the pleasure of the Governor.

The Council may study and recommend action by private and public entities on the following items and on others it may select:

1. Methods for identifying the extent of head injury in Missouri.
2. A statutory definition of "head injury".
3. Appropriate entry points for head injured persons seeking services from state agencies.
4. Rehabilitative placement opportunities which can be provided with public or private resources.
5. Methods for establishing and funding transitional living centers for the head injured.
6. Methods for advancing the practice and availability of cognitive retraining therapies.

7. Improved coverage by all third party payers for treatment and rehabilitation in institutional, in home and in other settings.

8. Protection of the personal and civil rights of head injured persons.

9. Head injury preventive education.

10. Opportunities for obtaining federal funds through the National Institute of Health Research (NIHR).

The Council shall meet when called by the Chairman, but at least quarterly. The Council shall elect annually one of its members to serve as Chairman. The Council shall adopt written procedures to govern its activities. Staff and consultants shall be provided for the Council from appropriations requested by the Commissioner for such purposes.

The Council shall report annually to the Commissioner of Administration on its activities, and on the results of its studies, and shall include any recommendations in said report. This Order shall be effective July 1, 1985, and shall expire on July 1, 1988 unless renewed by an Executive Order executed prior to that date.

IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the Great Seal of the State of Missouri, in the City of Jefferson, on this 5 day of March, 1985.

John Ashcroft
GOVERNOR

ATTEST:

SECRETARY OF STATE

VIRGINIA HEAD INJURY FOUNDATION, INC.
~~1447 Dolley Madison Boulevard • McLean, Virginia 22101~~
~~703/821-1748~~
P.O. Box 24171
Richmond, VA 23224 (804) 355-5748

Contact: Alice Demichelis
(703) 821-1748 or (703) 860-5529

FOR IMMEDIATE RELEASE

March 12, 1984

Governor Charles S. Robb signed into law the Head Injury Registry Bill on March 7, 1984. The bill was introduced by Senator Clive DuVal, (D) 32nd District and passed the Senate unanimously. Delegate Mary Marshall, (D) 48th District (Arlington) handled the bill in the House of Delegates, where it passed 95-1. Virginia Head Injury Foundation (VHIF), its members state-wide, and the Department of Rehabilitative Services (DRS) vigorously supported the bill.

The legislation will establish and maintain a Central Registry, through the Department of Rehabilitative Services, of persons who sustain Head Injuries. It is the first law of its kind to be enacted in the United States. The bill was patterned after the Virginia Spinal Cord Registry Law. Under this new law, effective July 1, every hospital and

Under this new law, effective July 1, 1984, every hospital and attending physician is required to report to the Commissioner by the most expeditious means within 7 days after the identification of any persons sustaining a head injury. The objectives of the legislation are "to facilitate the provision of appropriate Rehabilitative Services by the Department and other state agencies to such persons."

"I appreciate the efforts of the VHIF and the Department in the assisting in the passage of this measure. Virginia can truly be proud of its leadership in recognizing the needs of its head injured population", says Senator Clive DuVal.

(more)

According to VHIF, this is the first step toward assessing the needs of Head Injured persons in the Commonwealth of Virginia. "We are proud that the Commonwealth of Virginia is the first state to enact such legislation. In the long run, proper rehabilitation programs at the outset will save the Virginia taxpayers hundreds of thousands of dollars" states Alice Demichelis, State Vice-President of Virginia Head Injury Foundation.

Wayne M. Alves, Ph.D., Director of Clinical Research, Head Trauma Center, Department of Neurosurgery, University of Virginia School of Medicine stated that "an aggressive, early effort to rehabilitate the brain injured seems to promise the greatest chance for restoring social competence and allowing head injured persons to resume a useful and productive life."

Virginia Head Injury Foundation is a non-profit organization, assisting head injured persons and their families adjust to the changes in their lives brought about by head injury. The chapters are located in the following locations: Northern Virginia, Richmond Area, Central Virginia, Southwest Virginia, Tidewater Area, and Virginia Beach Area.

Diane Huddle, M.A., LPC, Executive Director of VHIF, said, "on behalf of all head injured and their family members, we express our heartfelt gratitude to all the members of the Virginia General Assembly, DRS Commissioner Altamont Dickerson, and George Meeks, Director of DRS's Legal legislative and Consumer Affairs section. We also express special gratitude to the Honorable Joseph L. Fisher, Secretary of Human Resources. Establishment of a central registry is a major accomplishment for VHIF. We are now producing the nation's first film, expected to be released in April, about the head injured, stressing the importance of prevention and early intervention. The film will reach one-million Virginians before being distributed nationally.

VIRGINIA HEAD INJURY REGISTRY BILL

The Virginia Department of Rehabilitation has prepared a bill to be introduced in the Virginia 1984 legislative session which will estabi a state-wide register of head injured persons. The bill is patterned af the Spinal Cord Injury Registry currently in effect. ie Virginia Head Injury Foundation supports this bill. Enactment of the Head Injury Regi Bill will assist the Virginia Department of Rehabilitative Services in developing appropriate programs and facilities for head injured persons. In the long run, proper rehabilitation programs at the outset will save the Virginia taxpayers hundreds of thousands of dollars. According to a noted authority, Wayne M. Alves, Ph.d., Director of Clinical Research, Head Trauma Center, Department of Neurosurgery, University of Virginia School of Medicine, "an aggressive, early effort to rehabilitate the bra injured seems to promise the greatest chance for restoring social compet and allowing head injured persons to resume a useful and productive life

Head injury, primarily caused by automobile accidents, has reached epidemic proportions and is a major health problem. A recent survey, ab to be released by the Virginia Head Injury Foundation, has revealed that 1982 alone, 13,000 people in Virginia sustained a head injury. These staggering figures were obtained from hospital reports throughout the st

At the present time, Virginia lacks the needed facilities for prope rehabilitation of head injured persons. Once he/she reaches medical and physical stability, acute rehabilitation facilities are often forced to discharge them long before they are capable of resuming a useful and pro ductive life. The head injured individual and his/her family have nowhe to turn for help.

Although Virginia does have a small program at Woodrow Wilson Rehab tation Center in Stanton, the nearest rehabilitatiion centers for the he injured persons are in Pennsylvania and Connecticut. Many Virginia fami must travel out of state to receive necessary services, if they can loca appropriate services at all.

Six chapters of VHIF are located throughout the state. We are less than a year old and are now directly serving hundreds of Virginia famili

We were most fortunate to recieve a grant from the Department of Pehabil tation Services to conduct the survey which identified those 13,000 who

were head injured in 1982. This Bill will establish a register on a permanent basis which will identify for the Department of Rehabilitation, the persons in need of rehabilitative programs on the same basis as persons with spinal cord injuries.

On behalf of the thousands of head injured persons and their families, VHIF is asking for your support of the Head Injury Registry Bill.

LD0240305

SENATE BILL NO. 142

Offered January 17, 1984

A BILL to amend and reenact § 2.1-583 of the Code of Virginia, relating to a central registry of persons sustaining head injuries.

Patrons--DuVal, Waddell, Saslaw, Gartlan, Colgan, Holland, E. M., and Russell, J. W.; Delegates: Stambaugh, Cohen, Almand, Plum, Diamonstein, McDiarmid, Cody, Callahan, Medico, Cunningham, Keating, and Gordy

---

Referred to the Committee on General Laws

Be it enacted by the General Assembly of Virginia:

1. That § 2.1-583 of the Code of Virginia is amended and reenacted as follows:

§ 2.1-583. Central registry.– *A.* The Commissioner shall establish and maintain a central registry of persons who sustain spinal cord injury other than through disease, whether or not permanent disability results, in order to facilitate the provision of appropriate rehabilitative services by the Department and other state agencies to such persons.

Every hospital and attending physician shall report to the Commissioner by the most expeditious means within seven days after identification of any person sustaining such an injury. The report shall contain the name, age and residence of the person, date and cause of the injury, and such additional information as the Commissioner may deem necessary.

B. The Commissioner shall establish and maintain a central registry of persons who sustain head injuries, if permanent disability is likely to result. Reporting requirements shall be consistent with those set out in paragraph A of this section.

Official Use By Clerks	
Passed By The Senate	Passed By The House of Delegates
without amendment ☐	without amendment ☐
with amendment ☐	with amendment ☐
substitute ☐	substitute ☐
substitute w/amdt ☐	substitute w/amdt ☐
Date: _____	Date: _____
_____	_____
Clerk of the Senate	Clerk of the House of Delegates

Draft

COMMONWEALTH OF VIRGINIA

Department of Rehabilitative Services
Combined Head Injury/Spinal Cord Injury Central Registry
Section 2.1-583, Code of Virginia, requires that injury be reported within seven days after hospitalization

PATIENT'S NAME _____ BIRTH DATE _____
(last, first, middle)

SOCIAL SECURITY NUMBER _____

STREET _____ CITY _____ STATE _____

COUNTY _____ ZIP CODE _____

SUPPORTIVE CONTACT (FAMILY/FRIEND) _____
(relationship)

MAILING ADDRESS _____

_____

TELEPHONE # _____

PLEASE CIRCLE OR FILL IN THE APPROPRIATE ITEMS BELOW:

STATUS: LIVING DECEASED (IF SO, DATE _____)

SEX: MALE FEMALE VETERAN: YES NO . UNKNOWN

CAUSE: MOTOR VEHICLE DIVING GUNSHOT FALLS ASSAULT OTHER _____
(please specify)

DATE OF INJURY: _____ DATE OF ADMISSION _____

ATTENDING PHYSICIAN _____ TELEPHONE # _____

Head Injury

Report only on these ICD-9-CM Codes. (Circle)

800 - Fracture of vault of skull
801 - Fracture of base of skull
802 - Fracture of face bones
803 - Other and unqualified skull fractures
804 - Multiple fractures of skull and face
850 - Concussion
851 - Cerebral laceration and contusion
854 - Intercranial injury of other and unspecified nature, such as closed head injury

Spinal Cord Injury

ICD-9-CM Code (Circle)

344.0 - Quadraplegia
344.1 - Paraplegia

_____
Person Supplying Information

Hospital Name _____

Address _____

_____

Date Form Completed _____

Return to:

Spinal Cord/Head Injury
Central Registry
P. O. Box 11045
Richmond, VA 23230

AMENDED IN SENATE JUNE 29, 1984

AMENDED IN ASSEMBLY MAY 1, 1984

AMENDED IN ASSEMBLY MARCH 20, 1984

CALIFORNIA LEGISLATURE—1983-84 REGULAR SESSION

ASSEMBLY BILL No. 2913

Introduced by Assembly Members Agnos, Alatorre, Bates, Bronzan, Willie Brown, Chacon, Farr, Felando, Filante, Hannigan, Hauser, Isenberg, Klehs, Margolin, O'Connell, Papan, Maxine Waters, and Norman Waters

(Principal coauthor: Assembly Member Connelly)

(Coauthors: Senators Garamendi, Keene, Lockyer, Marks, McCorquodale, Petris, ~~and Rosenthal~~ *Rosenthal, and Torres*)

February 13, 1984

An act to repeal and add Chapter 4 (commencing with Section 4330) of Part 2 of Division 4 of the Welfare and Institutions Code, relating to mental health, making an appropriation therefor, and declaring the urgency thereof, to take effect immediately.

LEGISLATIVE COUNSEL'S DIGEST

AB 2913, as amended, Agnos. Mental health.

Under existing law, the Director of Mental Health is required to establish a pilot project for brain-damaged persons for one year to be conducted by contract with an appropriate nonprofit community agency.

This bill instead would require the director to contract with a nonprofit community agency meeting certain requirements to act as the Statewide ~~Coordinating Agency~~ *Resources Consultant* and to also contract *with nonprofit community resource agencies* to establish ~~not more than 10~~

~~geographically~~ *regionally* based ~~regional~~ resource ~~nonprofit community agencies~~ *centers* to provide specified services to brain-impaired adults.

This bill would appropriate $1,700,000 for the purpose of the bill.

This bill would take effect immediately as an urgency statute.

Vote: ⅔. Appropriation: yes. Fiscal committee: yes. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. Chapter 4 (commencing with Section 4330) of Part 2 of Division 4 of the Welfare and Institutions Code is repealed.

SEC. 2. Chapter 4 (commencing with Section 4330) is added to Part 2 of Division 4 of the Welfare and Institutions Code, to read:

CHAPTER 4. SERVICES FOR PERSONS WITH BRAIN DAMAGE OR DEGENERATIVE BRAIN DISEASE

4330. The Legislature finds all of the following:

(a) That state public policy discriminates against adults with brain damage or degenerative brain disease, *such as Alzheimer's disease*, hereinafter called "brain impairments."

(b) That the Legislature has declared state public policy and accepted responsibility to ensure that persons under the age of 18 years who are "developmentally disabled" pursuant to Division 4.5 (commencing with Section 4500), receive services necessary to meet their needs, which are often similar to those of persons who suffer from brain impairments.

(c) That persons over the age of 18 who sustain brain impairment have a variety of program and service needs for which there is no clearly defined, ultimate responsibility vested in any single state agency and for which there are currently a number of different programs attempting to meet their needs.

(d) That the lack of clearly defined, ultimate responsibility has resulted in severe financial liability and physical and mental strain on brain-impaired persons, their families, and caregivers.

(e) That terminology and nomenclature used to describe brain impairments are varied and confusing, in part because of different medical diagnoses and professional opinions, as well as differences in terminology used by the various funding sources for programs and services. Uniformity is required in order to ensure that appropriate programs and services are available throughout the state to serve these persons.

(f) *That the term "brain damage" covers a wide range of organic and neurological disorders, and that these disorders, as identified below, are not necessarily to be construed as mental illnesses. These disorders include, but are not limited to, all of the following:*

(1) Progressive, degenerative, and dementing illnesses including, but not limited to, presenile and senile dementias, Alzheimer's disease, multi-infarct disease, Pick's disease, and Kreutzfeldt-Jakob's disease.

(2) Degenerative diseases of the central nervous system that can lead to dementia or severe brain impairment, including, but not limited to, epilepsy, multiple sclerosis, Parkinson's disease, amyotrophic lateral sclerosis (ALS), and hereditary diseases such as Huntington's disease.

(3) Permanent damage caused by cerebrovascular accidents more commonly referred to as "strokes," including, but not limited to, cerebral hemorrhage, aneurysm, and embolism.

(4) Post-traumatic, post-anoxic, and post-infectious damage caused by incidents, including, but not limited to, coma, accidental skull and closed head injuries, loss of oxygen (anoxia), and infections such as encephalitis, herpes simplex, and tuberculosis.

(5) Permanent brain damage or temporary or progressive dementia as a result of tumors (neoplasam), hydrocephalus, abscesses, seizures, substance toxicity and other disorders.

(g) That brain damage frequently results in functional impairments that adversely affect personality, behavior, and ability to perform daily activities. These impairments cause dependency on others for care and decisionmaking. The manifestations of brain damage include impairments of memory, cognitive ability, orientation, judgment, emotional response, and social inhibition. Brain damage can strike anyone regardless of age, race, sex, occupation, or economic status.

(h) That Family Survival Project for Brain-Damaged Adults of San Francisco, a three-year pilot project established pursuant to former Chapter 4 (commencing with Section 4330), has demonstrated that the most successful, cost-effective service model is one which allows a nonprofit community agency to provide a full array of support services to families that have a member who suffers from a brain impairment. This agency provides direct services, coordinates existing resources, and assists in the development of new programs and services on a regional basis.

~~(g)~~

(i) That respite care services provide a combination of time-limited, in-home, and out-of-home services which significantly decrease the stress of family members and increase their ability to maintain a brain-impaired person at home at less cost than other alternatives. This ability is further increased when complemented by case planning, care training, and other support services for family members.

~~(h) That providing services to brain/impaired adults, their families, and caregivers requires the coordinated services of many state departments and community agencies to ensure that no gaps occur in communication, in the availability of programs, or in the provision of services.~~

~~(i) That, since 1977, the department~~

(j) That, since 1977, the State Department of Mental Health has attempted to identify service gaps and determine a cost-effective, feasible approach to funding and providing services to brain damaged adults, their families, and caregivers. That department has the experience of offering more in the continuum of programs and services than any other state agency and is willing to continue in the lead state agency capacity.

(k) That providing services to brain-impaired adults, and to their families and caregivers, requires the coordinated services of many state departments and community agencies to ensure that no gaps occur in communication, in the availability of programs, or in the provision of services. Although the services may include mental health interventions, they cannot be met solely by services of the State Department of Mental Health.

4331. As used in this chapter:

(a) "Brain damage," "degenerative brain diseases," and "brain impairment" means significant destruction of brain tissue with resultant loss of brain function. Examples of causes of the impairments are ~~degenerative dementias, cerebrovascular disease and stroke, degenerative diseases of the nervous system, traumatic brain injury, lesions and tumors, anoxia, and infectious disease.~~ *Alzheimer's disease, stroke, traumatic brain injury, and other impairments described in subdivision (f) of Section 4330.*

(b) "Brain-impaired adult" means a person whose brain impairment has occurred after the age of 18.

(c) "Respite care" means time-limited substitute care or supervision in support of the caregiver for the purposes of providing relief from the stresses of constant care provision and so as to enable the caregiver to pursue a normal routine and responsibilities. Respite care may be provided in the home or in an out-of-home setting, such as day care centers or short-term placements in inpatient facilities.

4332. The director shall administer this chapter and establish standards and procedures, as the director deems necessary in carrying out the provisions of this chapter. The standards and procedures are not required to be adopted as regulations pursuant to the Administrative Procedure Act (Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government

Code).

4333. The director shall do both of the following:

(a) Contract with a nonprofit community agency meeting the requirements of this chapter to act as the ~~Statewide Coordinating Agency.~~

~~(b) With the advice of the Statewide Coordinating Agency and within four years from the effective date of this chapter, contract with no more than 10 nonprofit community agencies to establish geographically based regional resource agencies in order to ensure the existence of an array of appropriate programs and services for brain-impaired adults. The regional resource agencies shall place a high priority on utilizing~~ *Statewide Resources Consultant, to be selected through a bid procedure.*

(b) With the advice of the Statewide Resources Consultant and within four years from the effective date of this chapter, contract with nonprofit community resource agencies, selected in a manner determined by the director, to establish regionally-based resource centers in order to ensure the existence of an array of appropriate programs and services for brain-impaired adults. The resource center shall place a high priority on utilizing community resources in creating opportunities for families to maintain a brain-impaired adult at home when possible and in other community-based alternatives when necessary.

4334. The Statewide ~~Coordinating Agency~~ *Resources Consultant* shall do all of the following:

(a) Serve as the centralized information and technical assistance clearinghouse for brain-impaired adults, their families, caregivers, ~~and service professionals~~ *service professionals and agencies, and volunteer organizations.*

(b) *Work closely and coordinate with organizations serving brain-impaired adults, their families, and caregivers in order to ensure, consistent with requirements for quality of services as may be established by the director, that the greatest number of persons are served and that the optimal number of organizations participate.*

(c) Develop training packages which are appropriate for a variety of persons, including, but not limited to, all of the following:

(1) Families.

(2) Caregivers and service professionals involved with brain-impaired adults.

(3) Advocacy *and self-help family and caregiver support* organizations.

(4) Educational institutions.

~~(c)~~

(d) Provide service and program development consultation to ~~regional resource agencies~~ *resource centers* and to identify funding sources which are available.

~~(d)~~

(e) Assist the appropriate state agencies in identifying and securing increased federal financial participation and third party reimbursement, including, but not limited to, Title XVIII (42 U.S.C. Sec. 1395 et seq.) and Title XIX (42 U.S.C. Sec. 1396 et seq.) of the federal Social Security Act.

~~(e)~~

(f) Conduct public social policy research based upon the recommendations of the Director of Mental Health.

~~(f) Arrange for and coordinate epidemiological research through subcontracting with appropriate agencies such as educational or medical research institutions as approved by the director.~~

~~(g) Assist the director in establishing criteria for, and in selecting, regional resource agencies.~~

~~(h) Establish an advisory task force which will advise the Statewide Coordinating Agency on matters related to the implementation of this chapter. Membership on this task force shall be determined by the Statewide Coordinating Agency based upon recommendations which may be made by the following: the Directors of Mental Health, Health Services, Social Services, Developmental Services, Rehabilitation, Aging, and Alcohol and Drug Abuse; the Secretary of Health and Welfare; the Insurance Commission; the President pro Tempore of the Senate; the Speaker of the Assembly; the~~

~~Assembly Committee on Aging and Long-Term Care; the Assembly Committee on Health; the Senate Committee on Health and Human Services; and other relevant legislative subcommittees and select committees as determined by the Statewide Coordinating Agency.~~

(g) Assist the director, as the director may require, in conducting directly, or through contract, research in brain damage epidemiology and data collection, and in developing a uniform terminology and nomenclature.

(h) Assist the director in establishing criteria for and in selecting resource centers and in designing a methodology for the consistent assessment of resources and needs within the geographic areas to be serviced by the resource centers.

(i) Conduct conferences, as required by the director, for families, caregivers, service providers, advocacy organizations, and educational institutions in order to enhance the quality and availability of high-quality, low-cost care and treatment of brain-impaired adults.

4335. In choosing an appropriate nonprofit community agency to act as the Statewide ~~Coordinating Agency~~ *Resources Consultant*, the director shall give priority to an agency which meets both of the following:

(a) An agency which has a proven record of experience in providing information, technical assistance and direct services to adults with all types of brain impairments, their families, and caregivers.

(b) An agency which includes family members and caregivers of brain-impaired adults on its board of directors.

4336. (a) The Statewide ~~Coordinating Agency~~ *Resources Consultant* shall submit progress reports on its activities as required by the director. These reports shall include, but not be limited to, a summary and evaluation of the activities of the ~~regional resource agencies~~ *resource centers*. Client, caregiver, service, and cost data shall be provided for each operating ~~regional resource agency~~ *resource center*.

(b) The department, in consultation with the Statewide ~~Coordinating Agency, shall conduct an annual~~

~~evaluation of the effectiveness of the regional resource agencies~~ *Resources Consultant, shall report to the Legislature by January 1, 1987, on the effectiveness of the resource centers.* The evaluation shall include, but not be limited to, all of the following:

(1) A comparative assessment of the costs and effectiveness of each type of service or combinations of services provided.

(2) An assessment of the nature and extent of the demand for services which provide respite, and an evaluation of their success in meeting this demand.

(3) An analysis of the effectiveness of the program in deterring the institutionalization of brain-impaired adults, allowing caregivers to maintain a normal routine, and promoting the continuance of quality care for brain-impaired adults.

(4) Recommendations for ensuring that unmet needs of brain-impaired persons and their families are identified and addressed with appropriate programs and services.

4337. The ~~regional resource agencies~~ *resource centers* shall serve all of the following functions:

(a) Provide directly or assist families in securing information, advice, and referral services, legal services and financial consultation, planning and problem-solving consultation, family support services, and respite care services, as specified in Section 4338.

(b) Provide ~~single entry point access~~ *centralized access to information about and referrals* to local, state, and federal services and programs in order to assure a comprehensive approach for brain-impaired adults, their families, and caregivers. *Nothing in this chapter shall prohibit access to services through other organizations which provide similar programs and services to brain-impaired adults and their families, nor shall other organizations be prevented from providing these programs and services.*

(c) Assist in the *identification and documentation of service needs and the* development of necessary programs and services to meet the needs of

brain-impaired adults in the geographic area.

(d) Cooperate with the Statewide ~~Coordinating Agency~~ *Resource Consultant* and the Director of Mental Health in any activities which they deem necessary for the proper implementation of this chapter.

(e) Work closely and coordinate with organizations serving brain-impaired adults, their families and caregivers in order to ensure, consistent with requirements for quality of services as may be established by the director, that the greatest number of persons are served and that the optimal number of organizations participate.

4338. Agencies designated as ~~regional resource agencies~~ *resource centers* by the director after consultation with the Statewide ~~Coordinating Agency shall~~ *Resources Consultant shall include in their governing or advisory boards, or both, as required by the director, persons who are representative of the ethnic and socioeconomic character of the area served and the client groups served in the geographic area. Resource centers shall* carry out the functions specified in Section 4337 through the administration and provision of ~~the following services~~ *programs and services that reflect the most progressive care and treatment alternatives available for brain-impaired adults, their families, and caregivers.* These *programs and* services may be provided directly or through the establishment of subcontracts as specified in their contract and within the limitations imposed by budget appropriations. *The department shall make efforts to achieve a goal that not less than 90 percent of the funds appropriated through contracts with resource centers shall be utilized for direct services, including, but not limited to, the following:*

(a) Information, advice, and referral and family support services, including, but not limited to, all of the following:

(1) Information and counseling about diagnostic procedures and resources.

(2) Long-term care planning and consultation.

(3) Legal and financial resources, consultation, and

representation.

(4) Mental health interventions.

(5) Caregiving techniques.

(b) Respite care services through the flexible and creative use of existing local resources, including, but not limited to, all of the following:

(1) In-home care.

(2) Adult day health and social day care services.

(3) Foster and group care.

(4) Temporary placement in a community or health facility.

(5) Transportation.

(c) Training and education programs for brain-impaired adults, their family members, caregivers, and service providers that will lead to the high-quality, low-cost care and treatment of service clients.

4339. The director shall establish criteria for client eligibility, including financial liability, pursuant to Section 4339.5. Income shall not be the sole basis for client eligibility. The director shall assume responsibility for the coordination of existing funds and services for brain-impaired adults, and for the purchase of respite care services, as defined in subdivision (c) of Section 4331 and described in subdivision (b) of Section 4336, with other departments that may serve brain-impaired adults, including the Department of Rehabilitation, the State Department of Health Services, the State Department of Social Services, the State Department of Developmental Services, the Department of Aging, and the State Department of Alcohol and Drug Abuse.

4339.5. Persons receiving services pursuant to this chapter may be required to contribute to the cost of services depending upon their ability to pay, but not to exceed the actual cost thereof. The criteria for determining client contributions which may be paid to the ~~regional resource agency~~ *resource center* under this chapter and standards for their utilization by the ~~regional resource agency~~ *resource center* in developing new programs and services shall be determined by the director after consultation with the Statewide

~~Coordinating~~ ~~Agency~~ *Resources Consultant.*

4339.6. In considering total service funds available for the project, the director shall utilize funding available from appropriate state departments, including, but not limited to: the State Department of Health Services, the State Department of Social Services, the Department of Rehabilitation, the Department of Aging, and the State Department of Alcohol and Drug Abuse. The director in conjunction with the Statewide ~~Coordinating~~ ~~Agency~~ ~~shall be involved in the implementation of the~~ *Resources Consultant shall coordinate his or her activities with the implementation of the* Torres-Felando Long-Term Care Reform Act (Chapter 1435, Statutes of 1982) in order to further the goal of obtaining comprehensive, coordinated public policy and to maximize the availability of funding for programs and services for persons with brain impairment.

SEC. 3. The sum of one million seven hundred thousand dollars ($1,700,000) is hereby appropriated from the General Fund to the State Department of Mental Health for the purposes of this act.

SEC. 4. This act is an urgency statute necessary for the immediate preservation of the public peace, health, or safety within the meaning of Article IV of the Constitution and shall go into immediate effect. The facts constituting the necessity are:

In order that certain greatly-needed services to brain-impaired adults may be provided at the earliest possible time, it is essential that this act go into immediate effect.

O

MISSOURI SENATE

JEFFERSON CITY

EDWIN L. DIRCK
SENATOR, 24TH DISTRICT
CAPITOL BUILDING
JEFFERSON CITY, MISSOURI 65101
TELEPHONE (314) 751-2340

10740 ST. XAVIER
ST. ANN, MISSOURI 63074
TELEPHONE (314) 428-7101

TO: Senator James Murphy
Senator Harry Wiggins
Senator Phil Curls
Senator Ralph Uthlaut
Representative Marvin Proffer
Representative Sheila Lumpe
Representative Sandra Reeves
Representative Derek Holland
Representative Jay Russell

Directors: Dr. Arthur Mallory, Secondary Education
Dr. Paul Ahr, Mental Health
Barrett A. Toan, Social Services
Rich Heiser, Missouri Protection and Advocacy Council

Research Analysts: House - Dan Landon
Senate - Toni Messina

Supervisor, Administrative Secretaries - Mary Lou Scott

FROM: Senator Edwin L. Dirck
Chairman, Head Injury Committee

SUBJECT: Senate Concurrent Resolution No. 12
"Joint Committee on Head Injuries."

DATE: July 17, 1984

Pursuant to SCR No. 12, the joint committee on head injury is assigned the task of studying the economic impact and emotional hardships of head injured victims across the state. We are also to prepare a report of findings and to prepare recommendations for submission to the 83rd General Assembly.

In conjunction with the National Head Injury Foundation, Missouri Chapter, Inc., we have scheduled a series of hearings during the months of August and September. (Schedule attached) Also enclosed is a packet of information from the National Head Injury Foundation which I believe will give committee members a good overview of our task.

Each committee member and staff person should arrange for their own lodging and transportation. If you have any questions, please notify my office.

ELD/bf

Colorado Head Injury Foundation, Inc.

TRAUMATIC BRAIN INJURY PACKETS INCLUDE:

Connecticut Medicaid Regulations for Traumatic Brain Injury - 1984

Santa Clara Valley Medical Center Community Low Cost Day Program - 1982

Florida Head Injury Registry Bill - 1985

Virginia Head Injury Registry Bill - 1984

Acute Standards of Care for Brain Injury Programs (C.A.R.F.) - 1985

Insurance Serious Injury Medical Costs - 1983

RSA Memorandum on Traumatic Brain Injury - 1984

California Assembly Bill #2913 Regional Brain Damage Center - 1984

Impact of Head Trauma on Society, Canadian J. Neurol. Sci. - 1984

Missouri Legislative Resolution Creating Head Injury Task Force, Services, Prevention

180 E. Hampden Suite 104 Englewood, CO 80110 (303) 761-8552

Florida Head Injury Registry Bill

Florida House of Representatives - 1985

HB 752

Copy to: Rep. Bell

By Representatives Bass and Gordon

A bill to be entitled

An act relating to the Department of Health and Rehabilitative Services; creating ss. 413.611 and 413.612, F.S.; providing intent; creating a central registry for reports of head injuries; providing definitions; requiring certain reports of head injuries; creating an advisory council; providing for review and repeal; providing an effective date.

WHEREAS, there is an absence of factual information concerning the scope and the significance of head injury in the state, and

WHEREAS, this absence of information has inhibited the development of proper care and rehabilitative programs and proper funding in both the private sector and in government agencies, and

WHEREAS, this absence of information has also inhibited the development of programs for the prevention of head injury, NOW, THEREFORE,

Be It Enacted by the Legislature of the State of Florida:

Section 1. Section 413.611, Florida Statutes, is created to read:

413.611 Head-injured persons; legislative intent.—It is the intent of the Legislature to establish a central registry for the collection of such information to facilitate the development of these programs. It is the further legislative intent that the registry ensure the referral of head-injured persons to the Department of Health and

This publication was produced at an average cost of 1.5 cents per single page in compliance with the Rules and for the information of members of the Legislature and the public.

CODING: Words in ~~struck~~ through type are deletions from existing law; words underlined are additions.

Rehabilitative Services by appropriate individuals or public and private agencies in order that such persons might obtain the appropriate rehabilitative services rendered by the department and other providers.

Section 2. Section 413.612, Florida Statutes, is created to read:

413.612 Central registry for head-injured persons; advisory council.--

(1) As used in this section:

(a) "Department" means the Department of Health and Rehabilitative Services.

(b) "Head injury" means an insult to the skull, brain, or its covering, resulting from external trauma which produces an altered state of consciousness or anatomic, motor, sensory, or cognitive/behavioral deficits.

(2) The department shall establish and maintain a central registry of persons suffering a head injury.

(3) Every public or private health and social agency and attending physician shall report to the department within 5 days after identification of any head-injured person. The consent of such person shall not be required.

(4) The report shall contain the name, age, residence, diagnosis of the person, and such additional information as may be deemed necessary by the department.

(5) There is created within the department a 13-member Advisory Council on Head Injury. The council shall be composed of physicians, other allied health professionals, administrators of head-injury programs, representatives from support groups and the Florida Neurosurgical Society. Members of the council shall be appointed by the secretary of the department and shall serve for terms of 4 years, except that 6

members shall be initially appointed to terms of 2 years. The council shall meet at least 4 times annually and members shall be entitled to per diem and travel expenses in accordance with the provisions of s. 112.061. The council shall provide advice and expertise to the department in the preparation, implementation, and periodic review of a coordinated rehabilitation program for head-injured individuals in Florida. The council shall assist the department in developing a coordinated multilevel plan of care which will be presented to the secretary for review and approval by July 1, 1986.

Section 3. Subsection (5) of s. 413.612, Florida Statutes, as created by this act, is repealed on October 1, 1995, and the Advisory Council on Head Injury shall be reviewed by the Legislature pursuant to s. 11.611, Florida Statutes.

Section 4. This act shall take effect upon becoming a law.

********** **********

HOUSE SUMMARY

Requires the Department of Health and Rehabilitative Services to create a central registry for head-injured persons. Requires health agencies and physicians to report head injuries to the department. Creates an Advisory Council on Head Injury. Provides the membership and duties of the council. Provides legislative findings and intent. Provides for review and repeal.

SEP 4 1984

UNITED STATES DEPARTMENT OF EDUCATION
OFFICE OF SPECIAL EDUCATION AND REHABILITATIVE SERVICES
REHABILITATION SERVICES ADMINISTRATION
WASHINGTON, D. C. 20202

INFORMATION MEMORANDUM
MEDICAL BULLETIN NO. 3
RSA-IM-84-37
August 28, 1984

TO : STATE REHABILITATION AGENCIES (GENERAL)
STATE REHABILITATION AGENCIES (BLIND)
RSA REGIONAL COMMISSIONERS (REGIONS I-X)
RSA SENIOR STAFF

SUBJECT: Traumatic Brain Injury

CONTENT: There is increasing national concern about the problems imposed by traumatic brain injury and the vocational rehabilitation program has an opportunity to become more actively involved in the resolution of these problems.

The Committee on Appropriations of the U.S. House of Representatives submitted a report to the whole House on the State of the Union, July 26, 1984, which stated:

"The Committee is encouraged by recent efforts in agencies like the National Institute for Handicapped Research to address the needs of people suffering brain injury due to trauma. With 50,000-90,000 people suffering such injury due to car accidents and other causes, the Committee remains concerned about whether their needs are being adequately addressed. The Committee would like the Rehabilitation Services Administration, in conjunction with all other agencies in the Departments of Education and Health and Human Services involved with issues relating to head injury, as well as outside experts and support groups, to report to the Committee before next year's budget hearings on the following issues: the current research and service delivery activities relative to head injury now being carried out by the various federal agencies; the unmet needs in research, training and service delivery; the most current techniques in acute care and rehabilitation of head injured persons; and a plan for the future direction that head injury research and service delivery should take.

In addition, the report should address the designation of a specific category of disability for the head injured and the utilization of that category by the relevant federal and State agencies."

The concern of this Committee is welcomed by RSA. It is noted that while each year from 50,000 to 90,000 persons who have severe residual impairments caused by traumatic brain damage, relatively few of these persons are served by vocational rehabilitation agencies.

It is therefore suggested that State vocational rehabilitation agencies re-examine their policies and practices in serving this group or individuals "with most severe handicaps" with a view towards making a significant contribution to the resolution of vocational rehabilitation problems imposed by this disorder.

Frederick Isch

Associate Commissioner of Program Operations

Attachment: Medical Bulletin No. 3

cc: CSAVR Executive Director

"A. Physical

Aphasia
Visual Impairment
Hearing
Physical Disability
a) Orthopedic involvement
Spasticity
Hemiparesis
Paraplegia
Seizures

"B. Cognitive

Memory Deficit--short and long term
Perception
Concentration
Attention
Lack of foresight
Planning--sequencing
Judgement
Headaches

"C. Psycho-Social-Behavioral-Emotional

Fatiguability
Euphoria
Denial
Egocentricity
Lack of self-esteem
Disinhibition
Depression
Sexual Dysfunction
Anxiety
Restlessness
Lack of Motivation - inability to self-monitor
Emotional Lability
Inability to Cope
Agitation

"The above impairments, any or all, may occur in varying degrees. The severely impaired may encompass all of the above, but it is important to note that with early and ongoing therapeutic intervention, the degree of these symptoms might decrease.

"Intellectual ability might not improve after a period of time, but social and behavioral aspects and memory could improve over long periods of time.

"Increasing the return to a higher functional level should be a continuing goal."

V. Some viewpoints from RSA

1) Eligibility: Persons who have incurred significant traumatic brain injury in virtually every case have a physical or mental disability which constitutes a significant handicap to employment. At issue is whether or not vocational rehabilitation services will benefit the individual in terms of employability.

2) Evaluation: It is vital that the evaluation of an applicant be provided by qualified professional persons who are skilled in the understanding and management of persons who have sustained traumatic brain

injury. It is recommended that States which have not done so, identify centers where services of a high quality are available for these persons. The National Head Injury Foundation, Inc., 18A Vermont Street, Framingham, Massachusetts 01701, is compiling a nationwide directory of such resources for evaluation, treatment and management which should be helpful.

The National Institute of Handicapped Research has supported the Traumatic Brain Damage Project at New York University Medical Center, the Severe Head Trauma Project at Santa Clara Valley Medical Center in San Jose, California, and four Research and Training Centers in Brain Injury and Stroke, where more than 75 related projects are currently being supported. These centers are located at New York University, Emory University in Atlanta, Georgia, Washington University in Seattle, Washington, and Northwestern University in Chicago, Illinois. These centers should be looked to for the provision of evaluation and therapeutic services for vocational rehabilitation clients and for recommendations concerning other centers of excellence within States.

University medical centers with strong departments of neurosensory and neuropsychology may provide such services and/or know where such services are provided.

The minimum work-up should include an evaluation by a clinical psychologist or a neuropsychologist. Emphasis should be given to what the individual can do, not just what cannot be done. Included in the evaluation should be consideration of premorbid personality, social, educational, and work experience, the nature of deficits, and the need for continuing therapy.

Because the passage of time in itself may enhance the potential of an individual for work, consideration may be given to the use of the authority for extended evaluation.

3) Coordinated services: Ideally, persons with traumatic brain injury should have available to them a coordinated system of care comparable to the National Spinal Cord Injury Service System. Presently, some elements of such a system are in operation. Acute care is provided at trauma centers; brain injury units of medical centers provide intensive care, with subsequent care provided at brain injury centers in rehabilitation units at the center or at related rehabilitation hospitals. But these elements do not form a "system" because they are not integrated or co-ordinated. A vocational rehabilitation counselor may carry out such an activity for his or her clients.

It is assumed that vocational rehabilitation services in general would be initiated after the person's condition has become relatively stable, possibly some six months post-injury. A major focus of such services would likely be cognitive services provided with the leadership of a

neuropsychologist, neurological services (for the control of complicating medical conditions such as seizures), physical restoration services as indicated, and vocational counseling, prevocational and vocational training services aimed at job placement.

Because of the devastating nature of this disorder, an individual's family may also need services which may be arranged for by the vocational rehabilitation counselor. Many families are helped by meetings with other similarly affected persons. The National Head Injury Foundation has a list of organized support groups and NHIF chapters by State.

References:

Handbook of Severe Disability, Stolov and Clowers, editors, 1981. U.S. Department of Education, Rehabilitation Services Administration, Washington, D. C. 20202.

Rehabilitation Brief - Bringing Research into Effective Focus, Volume V, No. 5, U.S. Department of Education, National Institute of Handicapped Research, Washington, D. C. 20202.

Neurology Clinics, Volume IV, Number 3, Baylor College of Medicine/The Methodist Hospital, Houston, Texas 77030.

Programs for the Handicapped, November/December 1981. U.S. Department of Education, Clearinghouse on the Handicapped, Washington, D. C. 20202.

Prepared as an attachment to
INFORMATION MEMORANDUM
MEDICAL BULLETIN NO. 3
HSA-IM-84-37
August 28, 1984

DOCUMENTATION OF HEAD-INJURED VICTIMS IN COLORADO

WITH SEVERE BEHAVIORAL PROBLEMS

	SEX	AGE	DATE OF INJURY	CURRENT LIVING SITUATION	BEHAVIORAL PROBLEMS	PHYSICAL STATUS	INSURANCE
.	F	33	Anoxic 4/82	Psych. Hosp. CU	Organic lability, anger, depression	mobile	John Hancock Group Health & Accident
.	M	29	2 years ago	Nursing Home Keller Cty	Sexually, socially inappropriate, wanders	mobile	Colo. XIX
.	M	24	2 years ago	Regency	Impulsive, combative at times, inappropriate socially and sexually	mobile	Trust Fund & Colo. XIX
.	M	34	1977	Mounclair Nursing Home in Denver		mobile	Colo. XIX
5.	M	22	8/79	At home (Denver)	Passive, Constant Supervision	mobile	Colo. XIX
6.	M	23	1982	Home (Denver)	Constant Supervision, Suicidal	mobile	Colo. XIX
7.	F	29	1980	Hospital, Pueblo	Suicidal, Constant Supervision	mobile	Colo. XIX
8.	M	19	Nov. 1982	Rehab. Hosp. Denver	Physically aggressive, non-cooperative	mobile	Colo. No-flt Auto, Colo. XIX
9.	M	20	1980	Home in Denver	Abusive, Constant Supervision	mobile	Colo. XIX
0.	F	26	1981	Pueblo Hosp.	Psychosis, Suicidal gestures	mobile	Colo. XIX
1.	M	24	1981	Home Grand Junction	Aggressive physically	mobile	Colo. XIX
2.	M	36	1980	Home Grand Junction	Aggressive physically	wheelchair	Colo. XIX
3.	M	37	1980	Home with parents	Physically abusive	wheelchair	Medicare
4.	M	27	1980	Colorado nursing home	Verbally explosive	wheelchair	Colo. XIX
5.	F	24	1979	Home with parents	Sexual acting out	mobile	private insurance

1983 - CHF Survey Regency, Craig, Hilltop

DOCUMENTATION OF HEAD-INJURED VICTIMS IN COLORADO WITH SEVERE BEHAVIORAL PROBLEMS

	SEX	AGE	DATE OF INJURY	CURRENT LIVING SITUATION	BEHAVIORAL PROBLEMS	PHYSICAL STATUS	INSURANCE
6.	F	26	1982	Nursing home	Physically aggressive	wheelchair	Colo. XIX
7.	M	39	1982	Home with sister	Alcohol abuse & Physically aggressive	mobile	Workers Compensation
8.	M	18	1980	Home with parents	Alcohol abuse & Physically aggressive	mobile	Private insurance
9.	F	21	1980	Home with Parents	Impulsive, non-cooperative, suicidal	mobile	No-flt, $8,000
20.	M	30	1981	deceased	Suicide	mobile	Private Health & accident
21.	M	22	7/81	home	Verbally abusive, Lack of cooperation	mobile	Colo. XIX
22.	N	36	1981	home	Alcohol abuse, Anti-social	mobile	Colo. No-flt., Colo. XIX
23.	M	33	5/80	home	Verbally abusive, Physically abusive	mobile	Colo. XIX
24.	F	18	5/80	home	Verbally abusive, Physically aggressive	mobile	Colo. XIX
25.	M	30	12/81	jail	Alcohol abuse, Physically abusive, Multiple car accidents	mobile	Colo. XIX
26.	M	24	8/82	home	Lack of cooperation, Substance abuse	mobile	Colo. XIX
27.	M	30	12/80	home	Withdrawn	mobile	Colo. XIX
28.	M	31	1975	home	Substance abuse, Uncooperative	mobile	Colo. XIX
29.	M	33	9/81	home	Uncooperative	mobile	Colo. XIX
30.	M	27	1977	Nursing home	Suicidal, Uncooperative	wheelchair	Colo. XIX
31.	M	22	6/79	Denver psychiatric ward	Physically and verbally abusive	wheelchair	Colo. XIX

DOCUMENTATION OF HEAD-INJURED VICTIMS IN COLORADO WITH SEVERE BEHAVIORAL PROBLEMS

SEX	AGE	DATE OF INJURY	CURRENT LIVING SITUATION	BEHAVIORAL PROBLEMS	PHYSICAL STATUS	INSURANCE
M	36	3/80	Nursing home	Physically abusive, Acting out	wheelchair	Colo. XIX
F	42	3/83	Psychiatric hospital	Wanders, chronic alcoholic, impaired judgement, gravely disabled mentally	mobile	
M	43	4/77	Home	Violent with kids	mobile	XVIII and Insurance
M	25	1983	Hospital		mobile	Colo. XIX
M	29	1983	Home	Verbally abusive, gravely disabled	mobile	Workman's Comp
M	65	1981	Home	Physically abusive, needs constant supervision	mobile	Medicare & Supplement

RESIDENTIAL ADDRESS: XIX Canadian Congress of Neurological Sciences

The Impact of Head Trauma on Society

Leslie P. Ivan, President, Canadian Neurosurgical Society

Can. J. Neurol. Sci. 1984; 11:417–420

In this address I shall discuss head trauma from an angle ich may be unusual for neuroscientists. Our preoccupations diagnostic challenges and management problems, but that ich we experience at the bedside is only a narrow segment of ontinuum which started with trauma somewhere in a war, on road, at home, on the football field, in the boxing ring, and many other distinct locations. When our role is over, there only three places where head trauma victims can be found: emeteries, where every year, 5,000 new graves are made to commodate fatal head injuries in Canada; in chronic hospitals, ich are already overloaded with victims of various insults to brain, and, of course, within society, which accepts the ly recovered or tolerates the subtle and not so subtle consences of so-called 'minor' head injuries.

To begin, I shall focus on trauma itself and will try to define magnitude of the problem and match the response of society t. The magnitude of a health problem, can be judged from the idence, mortality, and morbidity figures and from the finan- l costs to society (Waller, 1980). A major epidemic is a aster in continuity which keeps decimating the population d saps the financial resources of society. But, according to ian Jennett: "Head injured patients are so common place t they often fail to attract the attention they deserve." (Jennett d Teasdale, 1981)

Let us examine the facts more closely. Reliable data are llect d regularly and come from a number of sources. The tional Head and Spinal Cord Injury Survey (Anderson and Laurin, 1980), a supplement to the Journal of Neurosurgery, d the Central Nervous System Trauma Research Status Report dom, 1979) remain excellent documents which can be updated m the World Health Organization Vital Statistics. From se, and other published statistics (Canadian 1982; Causes 7, 1980; Hospital 1978; World Almanac 1970-1983), it can be ablished that the annual incidence of serious head trauma is y high, and affects as many as 20,000 to 30,000 people in nada. The variation of 100 to 700 per 100,000 population is specific, and a tragic peak occurs between 15 and 19 years ge. This should be noted and imprinted on the conscience of parents of the world.

About 100,000 people die in the United States every year cause of accidents. Half of these deaths are related to road cidents; *70% of fatal injuries occur because of head trauma.* In nada, the situation is not much better, despite the fact that passed the highest peak in 1973, when road fatalities alone imed nearly 7,000 lives. In the 1970's sharing the distinction h West Germany, and surpassing the United States, WE were the world leaders in highway fatalities and WE had the highest percentage of accidental deaths in the world. There is overwhelming proof from excellent studies covering several geographic locations, that road accidents are the single most common cause of head injuries (51%), surpassing the home, which nevertheless, maintains the distinction of being the second most dangerous place for the head.

Looking at morbidity, the picture remains equally distressing. Figures for the United States show that there were 9 million disabling injuries in 1981, resulting in 350,000 cases of permanent disability. We don't have reliable figures in Canada, but as a rough estimate, 10% would probably be realistic.

Translating the morbidity and mortality figures to dollars and cents, the cost of accidents has grown from 18.2 billion dollars in 1970 to 78.4 billion dollars in 1982 in the United States. Motor vehicle accidents account for nearly half of these expenses. Head injuries, therefore, in Canada, cost at least 4 billion dollars per year.

At a recent Trauma Conference in Calgary, Professor John Read stated, "One in twenty Canadian children born today will be killed or severely injured before reaching the age of 15 (Read, 1984). The majority of these injury events will occur in traffic." Just think about it for a minute. The world's population will be about 6 billion in the year 2000, 2.5 billion of which will be children under 14 years of age. If all countries on earth were as advanced as we are technologically, 1.25 million children would die in the year 2001 because of head injuries alone.

In this frightening shadow of an Orwellian forecast, my second concern in this address is to examine society's response to the vastness of the problem and ask:

1. Is it really true that accident is a natural phenomenon?
2. Do head injury patients fail to attract the attention they deserve?
3. Is it really tenable that in 15 years, accidents will continue decimating the children of this country?

Allow me to illustrate the "Vital Signs" of society or the "Coma Scale", if you wish, whereby the response of society can be assessed. Whether a society is alert or in coma may be gauged by testing cultural and organizational phenomena, checking what industry, government and the law do about a noxious reality, and testing how society propagates new knowledge, processes new information, and implements the needed change.

Let us look first at Canadian and American agencies concerned with trauma. These organizations which represent the medical profession, business, industry, government and citi-

Reprint requests to: L.P. Ivan, M.D. Professor and Chairman, Division of Neurosurgery, University of Ottawa. Head, Division of Neurosurgery, Children's Hospital of Eastern Ontario, 401 Smyth Road, Ottawa, Ontario K1H 8L1

zen groups are listed in Table 1. These are only about 40% of the agencies concerned internationally with trauma and head injuries.

Organized medicine should be proud of the leadership of the American College of Surgeons which has been a powerhouse of resources on how to establish and maintain effective structural and high professional standards in the management of trauma victims. The number of brochures, pamphlets and symposia, reflect the profound concern of the American College about this epidemic of civilized living which can be subdued by improving every phase of trauma management.

In Canada, I must confess, there has been a slow awakening, but within the past few years, from the Royal College to the Canadian Medical Association, the activity has been very impressive.

Time prevents me from checking the "Vital Signs" of society systematically and exhaustively. I shall, however, touch upon a few issues which I consider important because they reflect Canadian concern. These are: 1. Head protection, 2. Injuries to children, 3. Alcohol and youth, 4. Seat-belt and restraint, 5. Trauma research funding.

Head Protection

Great events in history have hinged on head protection. It is no secret that Goliath had a helmet of brass upon his head and that his helmet had a rather substandard construction for David "smote the Philistine, the stone sunk into his forehead and he fell upon his face to the earth." The Romans and Greeks had excellent helmets. Alexander the Great (330 B.C.) had a fluted helmet which successfully deflected blows to his head, and saved his life in many battles. Obviously, a man ahead of his time, he decreed that in all campaigns, horse soldiers should wear helmets. The current trend is in agreement with him, as protective devices in transport, sport, and leisure activity are showing a resurgence today.

The excellent posters of the Ontario Easter Seal Society uses the best psychology to reinforce the use of sports helmets. The improvement of existing helmets is very important, as is shown by a study covering five years of football injuries in the United States (Schneider, 1982) In this study, 69 subdural haematomas with 28 deaths occurred because the helmets did not properly absorb the energy from severe impact. This prompted research to improve helmet design and reduce injury.

In our study, we found bicycle injuries the single most common cause of head injury in children (Ivan et al., 1983; Lapner and Ivan, 1981). We suggest the use of helmets for cyclists and bicycles that are CSA (Canadian Standards Association) approved. We hope that legislation will deal with these issues.

Concerning motorcycle helmets, in the United States, 35 states repealed mandatory motorcycle helmet legislation in May of 1976 (Watson et al., 1980). The result, an increase in head injuries and death, and a 200% increase in medical cost and disability (McSwain and Petrucelli, 1984).

This might be the time to reflect on boxing. The World Federation of Neurosurgeons and the Canadian Neurosurgical Society have been fighting this savage sport for a long time. Last year, our view was presented (by Dr. J. Stratford) to the Canadian Medical Association. In a recent letter, I was informed that the Canadian Medical Association has made a resolution that boxing be banned in Canada, while the Ontario Medical Association, at its annual meeting, indicated that all boxing need not be banned (Rich, 1984). Dr. George Lundberg, in a recent editorial, stated that blows to the head should be made illegal, as have blows to the testes (Newsbriefs, 1984).

Injuries to Children

Injuries to children is a special issue because of the enormity of the mortality figures compared to other causes of death in childhood (Accidents, 1981). Interestingly, the most revealing figures come from the Cancer Journal for Clinicians (Silverberg, 1982), which clearly shows that accidents in the United States killed more children between 1 and 14 years of age, than cancer, congenital anomalies, heart disease, meningitis, cerebral palsy and cystic fibrosis, altogether. For children, the road is deadly, but for toddlers and infants, the home remains the commonest place of head trauma, and through the Canada Safety Council and the Canadian Institute of Child Health, we have convinced the government to modify safety standards for stairs, walkers, and homes.

Alcohol and Youth

Drinking and driving is a serious problem in all age groups (Simpson, 1982; Zuska et al., 1983). The Canadian Automobile Association tells us that in 1981, from the 641 persons killed in traffic accidents, 376 had been drinking. The Bulletin of the American College of Surgeons states, and I quote, "More than 2 million Americans died in wars since 1775" (Connaught, 1983). Since approximately 50% of motor vehicle deaths are alcohol related, it becomes apparent that drinking and driving has killed more on the streets and highways than we have lost in all wars as a nation." Alcohol abuse and road trauma combined are the leading causes of death between 17 and 21 years of age. A recent study in the province of Ontario revealed that from 400 fatally injured drivers and pedestrians in one year, only 32 had neither alcohol nor drug in their blood samples (Warren & Simpson, 1980).

The Ontario Medical Association Committee on Accident Injuries has made specific recommendations for strategies to decrease drinking and driving (Committe, 1984). This may ultimately result in provincial legislation. The Law Reform Commission of Canada has already forwarded a report to Parliament with specific recommendations about alcohol related issues (Report, 1983).

One of the best documents I had in my hands, revealing society's concern is the booklet Task Force of the Government of Ontario on Drinking and Driving (Discussion, 1983). It deals with the problem in depth, both nationally and internationally. At the request of a citizen's group, a Task Force was established by Premier W. Davis in the fall of 1982, in order to spearhead new assault on the problem. The Task Force made several recommendations in this study which should surface soon in Parliamentary debate.

The Traffic Injury Research Foundation has an equally valuable document in which the emphasis is again on youth with specific reference to changing social behaviour and attitudes towards drinking and driving (Alcohol, 1983). This report also emphasizes the development of community based strategies. Examples of these are M.A.D.D. (Mothers Against Drunk Driving), S.A.D.D. (Students Against Drunk Driving). Many of these voices reach the media quite frequently, and some concern appear on such things as shopping bags issued by the Liquor Control Board of Ontario. In magazines, unfortunately

Alcohol is a frequent object of beautiful advertisements. In the distinguished Canadian Geographic (Canadian, 1984), I found five excellent ads, promoting alcohol. The one which caught my eye was Seagrams, which says "When we say don't drink and drive we're not just talking about liquor. Twelve ounces of beer, a 5½ oz. glass of wine and 1½ oz. of spirits — they all contain the same amount of alcohol. So they're all equally wrong to mix with driving, and for that matter, just as wrong to abuse at any time". Moral or immoral, conformist or not, it is good to know that at least one of the merchants of this lethal combination feels some societal pressure.

Seatbelts and Restraining

There has been a remarkable decrease in deaths and injuries since January 1st, 1976, when seatbelts became mandatory in Ontario. In 1975, the year before seatbelt legislation, 1314 drivers and passengers were killed in motor vehicle accidents in Ontario. In 1982, Canadian Road Fatality Statistics show that the number had dropped to 783, a drop of 40%; the lowest number of deaths and injuries since 1965. Unfortunately, seatbelt laws in many countries are not enforced, or if they are, the compliance may be low. A recent blitz in Ottawa showed only 38% adult and 60% child restraint compliance which improved by 10% after a second blitz (Surveys, 1984). Child restraint legislation is now in effect in Ontario, Quebec, Manitoba, Nova Scotia, Newfoundland, Saskatchewan and 41 states of the United States. It remains, however, a matter of education and legislation to protect little citizens who cannot make the decision to protect themselves.

Some researchers believe that a passive restraint system will improve the problem and industrial research remains very active in this field. The U.S. government has recently legislated that airbags and automatic seat belts will be phased into new cars by the manufacturers.

Trauma Research

Finally, I would like to touch upon trauma research. In spite of the improvement of mortality with agressive treatment of severe head injuries, we seem to have reached a plateau where further improvement remains questionable. Maybe it is true, that a scrambled brain cannot be unscrambled; but, there is plenty of room for research. (Ghent, 1981)

Certain therapeutic vacuums exist which may effect society and man in a rather insidious manner. Probably the two most important areas which deserve more research are from the moment of the 'accident' to the earliest possible management of trauma, and the subtle consequences of head injuries. As an example: a 15 year old boy suffered a slight head injury while under the influence of alcohol, when he fell backwards and struck his head on the floor. He had a Glasgow coma scale of 12 at admission and left the hospital in less then a week. The CT scan showed, to our astonishment, a dozen small contre-coup haemorrhages in the frontal and temporal areas. He went back to school, but dropped out before graduating, and now works as a painter's helper.

I recently saw him again when he was painting the walls of the hospital where he was treated. He is jolly, uninhibited, calls himself a paintologist and is reintegrated to productive life; but is he really? Can we measure his loss? What else could he have painted? Why did he drop out of school?

Nobody can answer these questions for we don't know the value of lost neurons, and how can we know, when such a small amount of money is spent on head injury research. The figures are embarrassing for only one percent or less of the grant dollars support head injury research. People who suffer from incurable diseases have my deepest sympathy and I am happy for the millions of dollars governments will spend to attempt to solve their problems, but I also have healthy children and three of them are teenage drivers. From the depth of my heart I am crying for all teenagers of Canada and the world, that we may find the wisdom and the money to stop their slaughter on the roads.

Prevention should be the solution, but prevention comes from education and education is the transfer of knowledge. Knowledge can be based only on experience and research, and education and research together are the key issues to the solution of the problem of head trauma.

Neuroscientists should be the champions of this cause, for they know best that the greatest treasure of evolution is the human brain. There should be a new line of evolution in society, not the fittest, but the wisest. An evolution which brings deeper maturity and wisdom to human behaviour, a changed attitude which will protect man from self-destruction. Head injury is not a natural phenomenon. It comes from a hostile environment which is man made and it should be controlled by man.

According to my analysis, the vital signs of our society are quite stable. We are making progress and the scores are quite high on the responsiveness scale. The two weak areas, research and education, are strongly dependent on government support and as we know, it takes a long time before the fixed pupils of some government agencies start responding to light.

ACKNOWLEDGEMENTS

I am indebted to my wife, Maureen, who helped research this problem and put the material into perspective. Dr. W. R. Ghent from Kingston, Mr. Rotenburg from the Ontario Medical Association, Dr. Da Sylva from the Canadian Medical Association and all the organizations listed in Table 1 generously provided valuable information and assistance.

SEP 4 1984

UNITED STATES DEPARTMENT OF EDUCATION
OFFICE OF SPECIAL EDUCATION AND REHABILITATIVE SERVICES
REHABILITATION SERVICES ADMINISTRATION
WASHINGTON, D. C. 20202

INFORMATION MEMORANDUM
MEDICAL BULLETIN NO. 3
RSA-IM-84-37
August 28, 1984

TO : STATE REHABILITATION AGENCIES (GENERAL)
STATE REHABILITATION AGENCIES (BLIND)
RSA REGIONAL COMMISSIONERS (REGIONS I-X)
RSA SENIOR STAFF

SUBJECT: Traumatic Brain Injury

CONTENT: There is increasing national concern about the problems imposed by traumatic brain injury and the vocational rehabilitation program has an opportunity to become more actively involved in the resolution of these problems.

The Committee on Appropriations of the U.S. House of Representatives submitted a report to the whole House on the State of the Union, July 26, 1984, which stated:

> "The Committee is encouraged by recent efforts in agencies like the National Institute for Handicapped Research to address the needs of people suffering brain injury due to trauma. With 50,000-90,000 people suffering such injury due to car accidents and other causes, the Committee remains concerned about whether their needs are being adequately addressed. The Committee would like the Rehabilitation Services Administration, in conjunction with all other agencies in the Departments of Education and Health and Human Services involved with issues relating to head injury, as well as outside experts and support groups, to report to the Committee before next year's budget hearings on the following issues: the current research and service delivery activities relative to head injury now being carried out by the various federal agencies; the unmet needs in research, training and service delivery; the most current techniques in acute care and rehabilitation of head injured persons; and a plan for the future direction that head injury research and service delivery should take.

In addition, the report should address the designation of a specific category of disability for the head injured and the utilization of that category by the relevant federal and State agencies."

The concern of this Committee is welcomed by RSA. It is noted that while each year from 50,000 to 90,000 persons who have severe residual impairments caused by traumatic brain damage, relatively few of these persons are served by vocational rehabilitation agencies.

It is therefore suggested that State vocational rehabilitation agencies re-examine their policies and practices in serving this group of individuals "with most severe handicaps" with a view towards making a significant contribution to the resolution of vocational rehabilitation problems imposed by this disorder.

Frederick Schultz

Associate Commissioner of Program Operations

Attachment: Medical Bulletin No. 3

cc: CSAVR Executive Director

"A. Physical

Aphasia
Visual Impairment
Hearing
Physical Disability
a) Orthopedic involvement
Spasticity
Hemiparesis
Paraplegia
Seizures

"B. Cognitive

Memory Deficit--short and long term
Perception
Concentration
Attention
Lack of foresight
Planning--sequencing
Judgement
Headaches

"C. Psycho-Social-Behavioral-Emotional

Fatiguability
Euphoria
Denial
Egocentricity
Lack of self-esteem
Disinhibition
Depression
Sexual Dysfunction
Anxiety
Restlessness
Lack of Motivation - inability to self-monitor
Emotional Lability
Inability to Cope
Agitation

"The above impairments, any or all, may occur in varying degrees. The severely impaired may encompass all of the above, but it is important to note that with early and ongoing therapeutic intervention, the degree of these symptoms might decrease.

"Intellectual ability might not improve after a period of time, but social and behavioral aspects and memory could improve over long periods of time.

"Increasing the return to a higher functional level should be a continuing goal."

V. Some viewpoints from RSA

1) Eligibility: Persons who have incurred significant traumatic brain injury in virtually every case have a physical or mental disability which constitutes a significant handicap to employment. At issue is whether or not vocational rehabilitation services will benefit the individual in terms of employability.

2) Evaluation: It is vital that the evaluation of an applicant be provided by qualified professional persons who are skilled in the understanding and management of persons who have sustained traumatic brain

injury. It is recommended that States which have not done so, identify centers where services of a high quality are available for these persons. The National Head Injury Foundation, Inc., 18A Vermont Street, Framingham, Massachusetts 01701, is compiling a nationwide directory of such resources for evaluation, treatment and management which should be helpful.

The National Institute of Handicapped Research has supported the Traumatic Brain Damage Project at New York University Medical Center, the Severe Head Trauma Project at Santa Clara Valley Medical Center in San Jose, California, and four Research and Training Centers in Brain Injury and Stroke, where more than 75 related projects are currently being supported. These centers are located at New York University, Emory University in Atlanta, Georgia, Washington University in Seattle, Washington, and Northwestern University in Chicago, Illinois. These centers should be looked to for the provision of evaluation and therapeutic services for vocational rehabilitation clients and for recommendations concerning other centers of excellence within States.

University medical centers with strong departments of neurosensory and neuropsychology may provide such services and/or know where such services are provided.

The minimum work-up should include an evaluation by a clinical psychologist or a neuropsychologist. Emphasis should be given to what the individual can do, not just what cannot be done. Included in the evaluation should be consideration of premorbid personality, social, educational, and work experience, the nature or deficits, and the need for continuing therapy.

Because the passage of time in itself may enhance the potential of an individual for work, consideration may be given to the use of the authority for extended evaluation.

3) Coordinated services: Ideally, persons with traumatic brain injury should have available to them a coordinated system of care comparable to the National Spinal Cord Injury Service System. Presently, some elements of such a system are in operation. Acute care is provided at trauma centers; brain injury units of medical centers provide intensive care, with subsequent care provided at brain injury centers in rehabilitation units at the center or at related rehabilitation hospitals. But these elements do not form a "system" because they are not integrated or coordinated. A vocational rehabilitation counselor may carry out such an activity for his or her clients.

It is assumed that vocational rehabilitation services in general would be initiated after the person's condition has become relatively stable, possibly some six months post-injury. A major focus of such services would likely be cognitive services provided with the leadership of a

neuropsychologist, neurological services (for the control of complicating medical conditions such as seizures), physical restoration services as indicated, and vocational counseling, prevocational and vocational training services aimed at job placement.

Because of the devastating nature of this disorder, an individual's family may also need services which may be arranged for by the vocational rehabilitation counselor. Many families are helped by meetings with other similarly affected persons. The National Head Injury Foundation has a list of organized support groups and NHIF chapters by State.

References:

Handbook of Severe Disability, Stolov and Clowers, editors, 1981. U.S. Department of Education, Rehabilitation Services Administration, Washington, D. C. 20202.

Rehabilitation Brief - Bringing Research into Effective Focus, Volume V, No. 5, U.S. Department of Education, National Institute of Handicapped Research, Washington, D. C. 20202.

Neurology Clinics, Volume IV, Number 3, Baylor College of Medicine/The Methodist Hospital, Houston, Texas 77030.

Programs for the Handicapped, November/December 1981. U.S. Department of Education, Clearinghouse on the Handicapped, Washington, D. C. 20202.

Prepared as an attachment to
INFORMATION MEMORANDUM
MEDICAL BULLETIN NO. 3
RSA-IM-84-37
August 28, 1984

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2B.XVI. - 171.2B.XVII.

B. Definitions (con't.)

XVI. Traumatic Brain Injury (TBI) Day Treatment Program

"Traumatic Brain Injury (TBI) Day Treatment Program". means periodic short-term, skilled medical rehabilitation services prescribed by a physician (M.D.) for individuals who have sustained injury which is neurologically-based and has resulted from the interaction of any single or repetative external forces and the body resulting in any combination of focal and diffuse central nervous system (brain) dysfunctions, both immediate and delayed, occuring at the brain stem level and above. The injury results in a loss of living and working skills, in that, the individual evidences cognitive emotional behavioral, physical, perceptual or language deficits which interfere with restoring the individual to their former living and work situations. Treatment employs a system of coginitive remediation, and other rehabilitative services as required: speech, language, psychological, occupational and physical therapies. These services are uniquely individualized for each participant as a part of a total plan of care. Services are provided on a one-to-one or group treatment basis following an individualized plan of care established by an interdisciplinary team.

XVII. Interdisciplinary Team - TBI Program

"Interdisciplinary Team - TBI Program" means medical rehabilitation professionals such as: speech pathologist; physical therapist; occupational therapist; clinical/neuropsychologist; and social worker under the direction of a physician (M.D.) who is the primary member of the team. The physician provides medical supervision of the team professionals. The team is responsible for assessing the recipient's appropriateness for TBI program services and development of a coordinated individual treatment plan of care. The team is also responsible for the ongoing review of the plan of care, revaluating the continued need for medical rehabilitation services and adjusting the treatment goal as necessary.

B. Definitions (con't.)

XIV. Partial Evaluation

"Partial Evaluation" means a re-evaluation or assessment of a patient, in person which will occur within one (1) year from the date a complete evaluation was performed by the same provider clinic. In order to receive payment for this procedure, the following medical developments must exist:

a. a significant change in the patient's condition which occurs in relation to the current treatment plan;

b. readmission to a treatment program interrupted by a period of hospitalization;

c. a new diagnosis requiring a new treatment plan for the same treatment modality.

XV. Medical Check-up

"Medical Check-up" means an evaluation of a patient, in person, who has received maximum benefits and has been discharged from a program of treatment and may require a medical status review for the following medical developments only;

a. Degenerative conditions

b. Assessment of a home program recommended and developed by a clinic health professional as part of the patient's discharge plan.

B. Definitions (con't.)

XVIII. Cognitive Remediation

"Cognitive Remediation" means a rehabilitative treatment program designed to improve an individual's verbal and visual-perceptual abilities which are impaired. Specific areas that may require treatment include:

a. Ability to sustain attention and mental focus on given tasks in order to work effectively in the completion of such tasks.

b. Ability to retain, retrieve and/or recognize information acquired through hearing.

c. Ability to organize information in a logical order to facilitate its analysis and comprehension.

d. Ability to organize visual information within a given physical space, in order to understand, comprehend, and make use of such information.

e. Ability to use fine motor muscles to perform such tasks as manipulation of small objects and/or writing.

f. Ability to integrate visual and fine motor stimuli in a coordinated fashion (i.e. copying, writing).

B. Definitions (con't.)

XVIII. Cognitive Remediation (con't.)

g. Ability to discriminate, visually, among different distracting stimuli.

h. The ability to formulate a problem within context, to analyze its conditions and to develop a strategy and a plan of approach to its solution and verification.

i. The ability to produce accurate retention and integration of verbal information and analysis of linguistic relationships.

j. The ability to evaluate and select appropriate alternatives of action to a given situation.

The individual suffering head trauma may evidence deficits in any or all of these areas. A program of cognitive remediation is constructed to address each participant's particular coginitive deficit(s). The goal of such a program is to improve the individual's function level of cognitive abilities, and/or to train the individual in appropriate compensations for permanent deficits.

Services are performed by a speech pathologist or occupational therapist in cognitive areas most applicable to their professional skills and training. Occupational therapy assistants may carry out the implementation of cognitive remediation functioning under the general supervision of the occcupational therapist.

XIX. Home

"Home" means the recipient's place of residence which includes a boarding home or home for the aged. Home does not include a hospital skilled nursing facility, or intermediate care facility.

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2B.VII. - 171.2B.IX.

B. Definitions (con't.)

VII. Speech Pathologist

"Speech Pathologist" means a person who is licensed to practice speech pathology under Chapter 399 of the State Statutes.

VIII. Audiological Services

"Audiological Services" means the application of principles, methods and procedures of measurement, testing, appraisal, prediction, consultation, counseling and the determination and use of appropriate amplification related to hearing and disorders of hearing, for the purpose of modifying communicative disorders involving speech, language, auditory function or other aberrant behavior related in hearing loss. Services are performed by an audiologist.

IX. Audiologist

"Audiologist" means a person who is licensed to practice audiology under Chapter 399 of the State Statutes.

B. Definitions (con't.)

V. Functional Therapy

"Functional Therapy" means a short term therapeutic rehabilitation program of which the major component is the treatment of a medical and/or psychological condition of disabled of handicapped adolescents or adults who have been determined to have no vocational objective. The program is individually planned and co-ordinated and includes, participation in work activity services concurrent with the medical services and is designed to enhance the individual's daily living skills. The work activity services are provided in a medical sheltered workshop facility which performs such service.

VI. Speech Pathology Services

"Speech Pathology Services" mean the application of principles, methods and procedures for the measurement, testing, diagnosis, prediction, counseling or instruction relating to the development and disorders of speech, voice or language for the purpose of diagnosing, preventing, treating, ameliorating or modifying such disorders and conditions. Services are provided by a speech pathologist.

State of Connecticut
Department of Income Maintenance
Medical Care Administration

MEDICAL SERVICES POLICY — REHABILITATION CLINICS
171.2 - 171.2B.II.

171.2 Rehabilitation Clinics

Covered in this Section are: Independent comprehensive rehabilitation facilities; speech, hearing and language clinics affiliated with health centers; and other independent rehabilitation clinics providing diagnostic, therapeutic and restorative services to injured, ill or disabled individuals.

A. Legal Bases

I. Federal Regulations: 42 CFR 440.130d, 440.110, 440.90

II. State Statute: 17-134d, 17-313 a,b,c

III. A.P.A. Regulation: None

B. Definitions

I. Rehabilitation

"Rehabilitation" means the process of restoring an individual to useful life, who has been ill or, who is handicapped and has a potential for improvement.

II. Rehabilitation Services

"Rehabilitation Services" means medical and remedial services provided to an outpatient, the purpose of which, is the maximum reduction of physical or mental disabilities and restoration of eligible recipients to their best possible functional level. The services are performed under the direction of a licensed physician (M.D.) and shall be provided only at the rehabilitation facility except as allowed for Medical Sheltered Workshops.

ISSUED BY PT83-32
SUPERSEDES PT82-47

B. Definitions (con't.)

III. "By or under the direction of a physician"

"By or under the direction of a physician" means: a free-standing rehabilitation clinic's services may be provided by allied health professionals, including: audiologists, speech pathologists, occupational therapists, and other medical staff whether or not a physician is physically present in the clinic at the time that medical services are provided. The physician:

a. must assume professional responsibility for the services provided;

b. assure that the services are medically appropriate, i.e., the services are intended to meet a medical or medically-related need, as opposed to needs which are clearly only social, recreational or educational;

c. need not be on the premises, but must be readily available, meaning within fifteen (15) minutes.

IV. Medical and Remedial Services

"Medical and Remedial Services" mean those services ordered by or under the direction of a physician or other licensed practitioner of the healing arts within the scope of his practice as defined by State law and required for the diagnosis and treatment of some physical or psychological problem which affects the health of an individual.

B. Definitions (con't.)

XI. Occupational Therapist or Occupational Therapy Assistant

"Occupational Therapist or Occupational Therapy Assistant" means a person who is licensed to practice occupational therapy under Chapter 376a of the State Statutes.

XII. Physical Therapy Services

Physical Therapy Services means: (1) diagnostic services to determine an individual's level of functioning, employing such performance tests as measurements of strength, balance, endurance, and range of motion; (2) treatment services which utilize therapeutic exercises and modalities of heat, cold, water, and electricity, for the purpose of preventing, restoring, or alleviating a lost or impaired physical function. Services are performed by a licensed physical therapist who developes a written individual program of treatment. The term "physical therapy" does not include the use of cauterization or the use of Roentgen rays or radium for diagnostic or therapeutic purposes.

XIII. Physical Therapist

"Physical Therapist: means a person who is licensed to practice physical therapy under Chapter 376 of the State Statutes.

B. Definitions (con't.)

X. Occupational Therapy Services

"Occupational Therapy Services" means services prescribed by a physician for the evaluation, planning, and implementation of a program of purposeful activities to develop or maintain adaptive skills necessary to achieve the maximal physical and mental functioning of the individual in his daily pursuits. The practice of "occupational therapy" includes, but is not limited to, evaluation and treatment of individuals whose abilities to cope with the tasks of living are threatened or impaired by physical illness or injury, emotional disorder, congenital or development disability, using (1) such treatment techniques as task-oriented activities to prevent or correct physical or emotional deficits or to minimize the disabling effect of these deficits in the life of the individual, (2) such evaluation techniques as assessment of sensory motor abilities, assessment of the development of self-care activities and capacity for independence, assessment of the physical capacity for prevocational and work tasks, assessment of play and leisure performance, and appraisal of living areas for the handicapped, (3) specific occupational therapy techniques such as activities of daily living skills, the fabrication and application of splinting devices, sensory motor activities, the use of specifically designed manual and creative activities, guidance in the selection and use of adaptive equipment, specific exercises to enhance functional performance, and treatment techniques for physical capabilities for work activities.

Services are performed by an occupational therapist to evaluate the patient's level of functioning and develop a plan of treatment. The implementation of the plan may be carried out by an occupational therapy assistant functioning under the general supervision of the occupational therapist.

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2E.I.j. - 171.2E.II.a.

E. Services Covered and Limitations (con't.)

I. Services covered: (con't.)

j. Functional therapy, must include at least one of the following:

1. Physical therapy

2. Speech therapy

3. Occupational therapy

4. Audiological services

5. Psychiatric and/or psychological services

6. Other medical services

Social Services may also be covered with any of the above medical rehabilitation services. The Social Services must be included in the plan of treatment and contribute to the improvement of the individual's condition.

k. Early Childhood Intervention Programs

l. Traumatic Brain Injury Day Treatment Program

II. Limitations

a. All services, treatments, and therapy which are contained in the individual's plan of care must be provided at the facility except for medical services for participants in sheltered workshop facilities providing functional therapy which do not furnish the required medical services at the facility. These facilities must contract with licensed and Department of Health Services recognized professionals in private practice or in clinics to treat the participant's medical need.

State of Connecticut
Department of Income Maintenance
Medical Care Administration

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2E.II.b. - 171.2E.II.e.

E. Services Covered and Limitations (con't.)
II. Limitations (con't.)

b. Evaluations and Diagnostic Testing

1. Only one (1) complete evaluation per recipient will be paid for per year involving the same treatment modality by the same provider.

2. Only one (1) tympanometry test, full impedance battery, or electronystagmography per recipient will be paid for per year by the same provider. (Refer to Section H.).

c. Sheltered workshop services for individuals who are primarily diagnosed as developmentally disabled are covered only if their need for this type of program stems from an etiology readily identifiable as medical or psychological in orgin.

d. Treatment services are limited to one (1) unit of service per day for the same procedure and the same patient, regardless of the length of time it takes to complete the procedure, except those clinics providing speech therapy reimbursed in half (½) hour increments, as approved by the Department. These clinics will not be reimbursed for more than three (3) half-hour units of service per day for the same patient.

e. T.B.I. treatment programs are limited to individuals who have sustained injury from interaction of any external forces resulting in the central nervous system (brain) dysfunctions. Developmental impairment primarily contributing to brain dysfunction is not included. The impairment must be readily identifiable as having been sustained through injury.

ISSUED BY PT83-32
SUPERSEDES PT82-47

State of Connecticut
Department of Income Maintenance
Medical Care Administration

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2E.III.b. - 171.2E.III.e.

E. Services Covered and Limitations (con't.)
III. Services Not Covered (con't.)

b. Concurrent services for the same client involving similar services or procedures

c. Periodic follow-up visits upon completion of treatment services except as limited to services involving "medical check-up" (See Section B)

d. Speech services involving non-diagnostic, non-therapeutic, routine, repetitive, and reinforced procedures or services for the patient's general good and welfare; e.g., the practicing of word drills. Such services do not constitute speech pathology services for Medicaid purposes and would not be covered since they do not require performance by or the supervision of a qualified speech pathologist.

e. Services as described in section E.I. and E.II. are not covered if an individual's expected restoration potential would be insignificant in relation to the extent and duration of rehabilitation services required to achieve such potential.

ISSUED BY PT83-32
SUPERSEDES PT82-47

E. Services Covered and Limitations (con't.)

II. Limitations (con't.)

f. The TBI program is primarily as medical rehabilitation program, however, vocational, social and educational services may be covered only when these services are (1) related to the individual's injury, (2) are reasonable and necessary for the diagnosis or treatment of the injury, (3) a part of the recipient's written individual plan of care.

g. Services covered are limited to those listed in the Department's Fee Schedule.

h. Programs relating to the learning of basic living or social skills, or other activities of daily living are limited to individuals who have lost or have had impaired functions of daily living and require retraining to maximize restoration of these skills.

III. Services Not Covered

a. Services provided by the facility's professional staff which are related solely to specific employment opportunities, workskills, work settings, and/or academic skills (reading, writing, mathematics) and are not reasonable or necessary for the diagnosis or treatment of an illness or injury are not covered.

State of Connecticut
Department of Income Maintenance
Medical Care Administration

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2F.I.b.1. - 171.2F.I.b.2.(a)

F. Need for Service and Authorization Process (con't.)
I. Need for Service (con't.)
b. Functional Therapy Program

1. A recipient may participate in a functional therapy program at a medical sheltered workshop, if

(a) The recipient has a condition which is appropriate for the workshop, and

(b) The workshop is able to provide the services which the recipient's physician (M.D.) orders and which are deemed appropriate by the Department's Medical Consultant.

(c) The recipient has a substantial, documented, medical or psychological condition which can be expected to improve or provide functional improvement through services provided by the medical sheltered workshop.

2. For functional therapy participants, a written plan of care and a written agreement of participation must be executed by the recipient and/or the recipient's guardian or conservator, prior to the recipient's admission into the program.

(a) Plan of Care

The plan of care is based upon recommendations from the individual's physician, the individual's progress as determined by workshop staff, and other supportive services approved by the Department's medical consultant. The plan of care shall be coordinated with a total plan of care.

ISSUED BY PT83-32
SUPERSEDES PT82-31

E. Services Covered and Limitations (con't.)

III. Services Not Covered (con't.)

f. When maximum benefits from any treatment program are reached, the service will no longer be covered, in other words, there is no payment for services providing maintenance at maximum functional levels.

g. Cancelled clinic visits or appointments not kept or other lack of attendance for services.

h. Services provided to a hospital inpatient.

i. Payment for hearing aid orientation services by facilities licensed to dispense hearing aids. The dispensing fee includes this service.

F. Need for Service and Authorization Process

I. Need for Service

a. Any Medicaid eligible person requiring medical or medically related treatment necessary to improve daily functioning due to a disabling mental or physical condition may receive rehabilitation services as prescribed by a physician.

State of Connecticut
Department of Income Maintenance
Medical Care Administration

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2E.I. - 171.2E.I.i.

E. Services Covered and Limitations (con't.)

I. Services covered:

a. Physical Therapy

b. Speech and Language

c. Audiological

d. Hearing Aid

e. Occupational Therapy

f. Electronystagmography

g. Inhalation Therapy

h. Psychological

i. Physician

RT

ISSUED BY PT82-47
SUPERSEDES PT82-12

State of Connecticut
Department of Income Maintenance
Medical Care Administration

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2C. - 171.2E.

C. Provider Participation

I. The provider must meet all applicable licensing and certification requirements.

II. The provider must meet all departmental enrollment requirements.

D. Eligiblity

Payment for clinics providing rehabilitation services is available for all persons eligible for Medicaid subject to the conditions and limitations which apply to these services.

E. Services Covered and Limitations

Except for the limitations and exclusions listed below, the Department will pay for rehabilitation services which conform to accepted methods of diagnosis and treatment, but will not pay for anything of an unproven, experimental or research nature or for services in excess of those deemed medically necessary by the Department to treat the recipient's condition or for services not directly related to the recipient's diagnosis, symptoms or medical history.

ISSUED BY PT82-47
SUPERSEDES PT82-12

F. Need for Service and Authorization Process (con't.)
I. Need for Service (con't.)
b. Functional Therapy Program
2. (con't.)

(b) The admission agreement shall include:

(1) Any nonfinancial obligations of the individual to the workshop. (e.g. a committment from the individual to attend the workshop a specified number of days per week).

(2) The days and hours the program operates

(3) A schedule of holidays when the workshop is closed, and

(4) The announcement procedures for unexpected closing due to disaster or inclement weather.

c. Traumatic Brain Injury Day Treatment Program

1. A recipient may participate in a TBI Day Treatment Program, if

(a) the recipient's impairment results in an identifiable medical, physical and psycho-social need for medical rehabilitation services to the extent that the recipient may be expected to be restored to a level of daily functioning that they may enter a traditional vocational program, and/or educational program, and/or have attained an optimal level of independent living as possible.

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2F.I.c.1.(b) - 171.2F.I.c.1.(d)

F. Need for Service and Authorization Process (con't.)
I. Need for Service (con't.)
c. Traumatic Brain Injury Day Treatment Program
1. (con't.)

(b) The services are a part of an individual's plan of care which primarily includes any of the following skilled medical rehabilitation modalities: (1) physical therapy; (2) occupational therapy; (3) speech and language therapy; (4) cognitive retraining; (5) psychological/psychiatric services. Concurrent to the medical rehabilitative services, subordinate vocational, social and educational services may be provided as a part of the written plan of care. (see subsection E.II. and E.III. for program limitations)

(c) The plan of care must contain the diagnosis, the type, amount, frequency and duration of services to be given and the anticipated program goals.

(d) The plan of care must be reviewed by the interdisciplinary team under the direction of the team physician at least every sixty (60) days. Following the review, the team physician should certify that the plan of care is being followed and that the patient is making progress in attaining the established rehabilitation goals.

ISSUED BY PT83-32
SUPERSEDES PT82-47

E. Services Covered and Limitations (con't.)

III. Services Not Covered (con't.)

f. When maximum benefits from any treatment program are reached, the service will no longer be covered, in other words, there is no payment for services providing maintenance at maximum functional levels.

g. Cancelled clinic visits or appointments not kept or other lack of attendance for services.

h. Services provided to a hospital inpatient.

i. Payment for hearing aid orientation services by facilities licensed to dispense hearing aids. The dispensing fee includes this service.

F. Need for Service and Authorization Process

I. Need for Service

a. Any Medicaid eligible person requiring medical or medically related treatment necessary to improve daily functioning due to a disabling mental or physical condition may receive rehabilitation services as prescribed by a physician.

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2F.I.b.1. - 171.2F.I.b.2.(a)

F. Need for Service and Authorization Process (con't.)
I. Need for Service (con't.)
b. Functional Therapy Program

1. A recipient may participate in a functional therapy program at a medical sheltered workshop, if

(a) The recipient has a condition which is appropriate for the workshop, and

(b) The workshop is able to provide the services which the recipient's physician (M.D.) orders and which are deemed appropriate by the Department's Medical Consultant.

(c) The recipient has a substantial, documented, medical or psychological condition which can be expected to improve or provide functional improvement through services provided by the medical sheltered workshop.

2. For functional therapy participants, a written plan of care and a written agreement of participation must be executed by the recipient and/or the recipient's guardian or conservator, prior to the recipient's admission into the program.

(a) Plan of Care

The plan of care is based upon recommendations from the individual's physician, the individual's progress as determined by workshop staff, and other supportive services approved by the Department's medical consultant. The plan of care shall be coordinated with a total plan of re.

F. Need for Service and Authorization Process (con't.)
III. Prior Authnorization (con't.)

b. The initial authorization period for ongoing rehabilitation services will be up to three (3) months except functional therapy and TBI treatment programs which shall be authorized up to six (6) months.

All evaluation reports shall include the individual treatment goals, short and long term, and evidence of the medical need from rehabilitation services.

1. The authorization request shall include a copy of the written clinical evaluation report for each treatment modality for which prior authorization is requested.

2. The authorization request for a TBI day treatment program shall include the interdisciplinary team's written clinical assessment of the recipient's condition which evidences the need for medical rehabilitation services and any other clincal reports the team may deem to be important supportive evidence of need. Such reports must result from an evaluation by other rehabilitation professionals, clinics, or physicians, occurring within the immediate three (3) months prior to the date the recipient is to enter the TBI Day Treatment Program.

State of Connecticut
Department of Income Maintenance
Medical Care Administration

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2F.III.c. - 171.2F.III.c.

F. Need for Service and Authorization Process (con't.)
III. Authorization Procedure (con't.)

c. A reassessment by the rehabilitation professional or interdisciplinary team (for TBI program participants) evidencing continued need for treatment is required at least once during each period of departmental authorization.

If the findings of the reassessment disclose the need for further services, the reassessment, in written summary form, signed by a physician (M.D.) together with any other written clinical evidence relating to the recipient's need for further services, is attached to Form W-626, "Request for Prior Authorization for Private Clinics". The new authorization request shall be submitted to the Department not less than fourteen (14) days prior to the expiration of the current authorization period. The reassessment shall describe the further treatment required, progress of the participant to date with goals achieved, and further treatment program goals and is submitted to:

State Department of Income Maintenance
Medical Consultant
110 Bartholomew Avenue
Hartford, Connecticut 06106

ISSUED BY PT83-32
SUPERSEDES PT82-47

State of Connecticut
Department of Income Maintenance
Medical Care Administration

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2F.III.b. - 171.2F.III.b.2.

F. Need for Service and Authorization Process (con't.)
III. Prior Authorization (con't.)

b. The initial authorization period for ongoing rehabilitation services will be up to three (3) months except functional therapy and TBI treatment programs which shall be authorized up to six (6) months.

All evaluation reports shall include the individual treatment goals, short and long term, and evidence of the medical need from rehabilitation services.

1. The authorization request shall include a copy of the written clinical evaluation report for each treatment modality for which prior authorization is requested.

2. The authorization request for a TBI day treatment program shall include the interdisciplinary team's written clinical assessment of the recipient's condition which evidences the need for medical rehabilitation services and any other clincal reports the team may deem to be important supportive evidence of need. Such reports must result from an evaluation by other rehabilitation professionals, clinics, or physicians, occurring within the immediate three (3) months prior to the date the recipient is to enter the TBI Day Treatment Program.

ISSUED BY PT83-32
SUPERSEDES PT82-47

F. Need for Service and Authorization Process (con't.)

II. Prior Authorization

The following services require prior authorization from the Department:

a. All individual therapy or treatment services and day treatment program services;

b. Partial Evaluations in excess of one (1) in ninety (90) days from the date of a complete evaluation, medical check-up, or another partial evaluation, involving the same treatment modality and provider;

c. Medical Check-up in excess of one (1) in ninety (90) days from the date of a complete evaluation, partial evaluation, or another medical check-up, involving the same treatment modality and provider,

d. Complete evaluations which occur within ninety (90) days from the date a partial evaluation or medical check-up involving the same treatment modality and provider.

III. Authorization Procedure

For services prior authorized, the procedure or course of treatment must be initiated within six (6) months from the date of authorization.

a. Form W-626 "Authorization Request for Private Clinics" is used to obtain prior authorization and is submitted to:

Department of Income Maintenance
110 Bartholomew Avenue
Hartford, Connecticut 06106

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2F.III.d. - 171.2F.III.f.

F. Need for Service and Authorization Process (con't.)
III. Authorization Procedure (con't.)

d. All requests requiring authorization must also include:

1. The name of the physician, and/or clinic making the referral

2. The specific number of visits required

3. The period of time by dates covered by the request

4. The specific type of service required and a description of the service to be rendered.

5. The complete diagnosis and other conditions for which the recipient needs services.

e. A request for a partial evaluation or medical check-up in excess of one (1) in a ninety (90) day period as described in Section F.II. shall document the specific medical need for such additional services.

f. To request additional services or other changes in the treatment plan within a period already authorized, a copy of the authorized form W-626 for that time period must be submitted with justification for the additional request and the statement "Additional Services" should be written on the form.

ISSUED BY PT83-32
SUPERSEDES PT82-47

State of Connecticut
Department of Income Maintenance
Medical Care Administration

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2G. - 171.2G.II.

* G. Other

I. Payment to a Salaried Physician

Physicians who are fully or partially salaried by a clinic may not receive payment from the Department unless the physician maintains an office for private practice at a separate location from the clinic.

Physicians who are solely clinic-based either on full time or part time salary are not entitled to individual payment from the Department for services rendered to Title XIX recipients. Services are to be billed by the provider clinic.

Physicians who maintain an office for private practice separate from the clinic may bill for services provided at the private practice location or for services provided to the physician's private practice patients at the clinic only if the patient is not a clinic patient.

II. Rehabilitation services must relate directly and specifically to a written individualized treatment plan established by or under the direction of a licensed physician. The written plan of treatment shall be part of the individual's record on file in the clinic, and shall be reviewed periodically by the appropriate facility health professional(s) to reassess goals and objectives of treatment making changes in the treatment plan as necessary.

ISSUED BY PT83-32
SUPERSEDES PT82-47

G. Other (con't.)

IV. The functional therapy program and TBI Day Treatment shall be subject to periodic monitoring by the Department of Income Maintenance staff. The purpose of monitoring shall be to:

a. Assess the quality and appropriateness of participant's plan of care

b. Determine the effectiveness of the program

c. Determine adherance to provider eligiblity requirements and other program requirements contained in the medical services policy.

V. Procedure for discharge from the functional therapy and TBI treatment programs.

The facility is required to document in writing the following information which shall be placed in the participant's record:

a. A discharge summary (final reassessment)

b. Recommendations for continuing sources of treatment, if appropriate

c. Referrals to other agencies or facilities for continuing treatment or service, if appropriate

d. Written notification to the participant and, if appropriate, to the participant's guardian or conservator if the facility's intent is to discharge the participant from the program.

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2G.III. - 171.2G.III.f.

G. Other (con't.)

III. The functional therapy participant's record must contain at least the following:

a. Basic identifying formation e.g. name, address, date of birth, sex, source of referral, date(s) of admission into the workshop and Medicaid case number

b. Emergency contact (name and telephone number)

c. The name and telephone number of the participant's physician or medical provider

d. A signed order by the physician specifying the need for medical sheltered workshop, with findings and recommendations

e. The prior authorizations (W-626) for the initial and extended periods of attendance at the workshop beyond the initial authorization

f. A copy of the written agreement between the participant and the workshop.

H. Billing Procedure (con't.)

IV. Except for services which are all-inclusive, an evaluation performed outside the rehabilitation clinic must be billed by the licensed professional actually providing the service. (Refer to section E.II.)

V. For an evaluation or test which is not completed on the same day, the provider should bill for services as of the date the evaluation or test has been completed.

I. Payment

I. Payment will be made at the lower of:

a. the usual and customary charge to the public, or,

b. the Medicare rate, or

c. the fee as contained in the individual clinic's fee schedule published by the Department, or

d. the amount billed

State of Connecticut
Department of Income Maintenance
Medical Care Administration

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2H. - 171.2H.V.

H. Billing Procedure

I. Form HCFA 1500 "Health Insurance Claim Form" is used for billing all clinic services. The bill is mailed to the Department's fiscal agent:

Electronic Data Systems Federal
P.O. Box 2941
Hartford, Connecticut 06104

II. All claims submitted for payment which include prior authorized procedures must include the authorization number from the current authorization.

III. Claims submitted for services not requiring prior authorization must include the name of the physician, or clinic making the referral.

IV. Except for services which are all-inclusive, an evaluation performed outside the rehabilitation clinic must be billed by the licensed professional actually providing the service. (Refer to section E.II.)

V. For an evaluation or test which is not completed on the same day, the provider should bill for services as of the date the evaluation or test has been completed.

ISSUED BY PT83-32
SUPERSEDES PT82-47

State of Connecticut
Department of Income Maintenance
Medical Care Administration

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2I. - 171.2I.II.b.

I. Payment

I. Payment will be made at the lower of:

a. the usual and customary charge to the public, or,

b. the Medicare rate, or

c. the fee as contained in the individual clinic's fee schedule published by the Department, or

d. the amount billed

II. Payment Rate

a. In-State Clinics

The Commissioner of the Department of Income Maintenance establishes the fees as contained in the in-state rehabilitation facility's individual fee schedule. The fees are based on reasonable costs in the respective facility where the service is rendered.

b. Out-of-State Clinics

The fees as contained in the out-of-state rehabilitation facility's individual fee schedule are based on the Medicaid rate established by the appropriate rate setting agency in the respective state where the clinic is located.

ISSUED BY PT83-32
SUPERSEDES PT82-47
SUPERSEDES PT82-31

State of Connecticut
Department of Income Maintenance
Medical Care Administration

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2I.III. - 171.2I.III.a.4.

I. Payment (con't.)

III. Payment Limitations

a. The rate is determined annually by the Commissioner of Income Maintenance for the following facilities in accordance with Section 17-313 of the General Statutes:

1. Rehabilitation centers affiliated with Easter Seal Society for Crippled Children and Adults of Conn., Inc.

2. The association affiliated with United Cerebral Palsy of Conn., Inc.

3. The facilities affiliated with the Association for Retarded Citizens.

4. Any private non-profit agency providing such programs for autistic or neurologically impaired persons for services to clients referred by any State agency.

ISSUED BY PT83-32
SUPERSEDES PT82-31

Payment (con't.)

III. Payment Limitations (con't.)

c. The fee for an evaluation of any individual treatment modality includes a written report.

d. The cost of electronystagmography includes interpretation unless otherwise approved by the Department.

e. No payment is made for periodic reassessment of an individual's treatment goals and objectives, except for partial evaluations and medical check-ups as defined in Section B.

f. If the facility provides transportation as a part of it's fee, no separate payment for transporation will be made.

g. Payment for TBI day treatment services will discontinue when the TBI program interdisciplinary team determines the recipient to be eligible for vocational training. A referral shall be made to an appropriate vocational training program by the team.

State of Connecticut
Department of Income Maintenance
Medical Care Administration

MEDICAL SERVICES POLICY

REHABILITATION CLINICS
171.2I.III.b. - 171.2I.III.b.4.

I. Payment (con't.)
III. Payment Limitations (con't.)

b. The rates for the following medical rehabilitation programs are all-inclusive and represent the maximum amount payable for any recipient from all sources of necessary rehabilitation services. The all-inclusive rate is comprised of services which are: (1) certified by a physician (M.D.) that the recipient requires skilled rehabilitation services, (2) furnished under a written plan of care developed by the facility's professional staff, and, (3) a service directly relating to the recipient's impairment and treatment goals as established by the staff. These services include, but are not limited to: therapy, evaluations, psychological/psychiatric services, other medical rehabilitation services, and transportation services:

1. Functional Therapy

2. Ripple Program

3. Early Childhood Intervention Programs

4. Traumatic Brain Injury Day Treatment Program

ISSUED BY PT83-32
SUPERSEDES PT82-47

J. Fee Schedule (con't.)
I. Procedure Code and Description of Service Summary (con't.)

02630	Speech, Language & Hearing Therapy
02700	Speech & Language Evaluation - Complete
02701	Speech and Language Evaluation - Partial
02710	Speech & Hearing Evaluation - Complete
02711	Speech and Hearing Evaluation - Partial
02730	Aural Rehabilitation
02890	Psychological/Psychiatric Evaluation Related to Rehab. Therapy
03110	Transportation - One Way
03120	Transportation - Round Trip
92541	Electronystagmography (includes interpretation)
92566	Impedance Testing
92567	Tympanometry
94664	Inhalation Therapy

J. Fee Schedule (con't.)
I. Procedure Code and Description of Service Summary (con't.)

	02161	Medical Evaluation - Partial
	02190	Individual Psychotherapy Related To Rehab. Therapy
	02200	Group Psychotherapy Related to Rehab. Therapy
	02250	Functional Therapy
	02255	Transitional Rehabilitation Services
	02300	Early Childhood Intervention Program
	02320	Ripple Diagnostic Evaluation
	02330	Ripple Program Transdisciplinary Team
	02340	CDEC Diagnostic Evaluation
	02350	CDEC Diagnostic Evaluation (mini)
	02500	Speech Evaluation
	02510	Speech Therapy
	02511	Speech and Language Medical Check-up
	02530	Hearing Therapy
	02531	Hearing Therapy Medical Check-up
	02570	Hearing Training

J. Fee Schedule

I. Procedure Code and Description of Service Summary

The following are procedure codes that can be used by free-standing Rehabilitation Clini Not all providers can bill for all of these services.

02010	Occupational Therapy Evaluation - Complete
02011	Occupational Therapy Evaluation - Partial
02020	Occupational Therapy
02021	Occupational Therapy Medical Check-up
02030	Traumatic Brain Injury Day Treatment Program
02060	Physical Therapy Evaluation - Complete
02061	Physical Therapy Evaluation - Partial
02070	Physical Therapy
02071	Physical Therapy Medical Check-up
02080	Hearing Evaluation - Complete
02081	Hearing Evaluation - Partial
02100	Hearing Aid Evaluation
02150	Speech & Hearing Therapy
02151	Speech and Hearing Medical Check-up
02160	Medical Evaluation - Complete