

REPORT TO THE THIRTY- THIRD LEGISLATURE

**STATE OF HAWAI'I
2024**

**PURSUANT TO SECTION 321H-4
HAWAI'I REVISED STATUTES**

**REQUIRING THE DEPARTMENT OF HEALTH TO PROVIDE AN
ANNUAL REPORT ON THE ACTIVITIES UNDER
THE NEUROTRAUMA SPECIAL FUND**



**PREPARED BY:
STATE OF HAWAI'I
DEPARTMENT OF HEALTH**

November 2024

EXECUTIVE SUMMARY

In accordance with the provisions of Section 321H-4, Hawai'i Revised Statutes (HRS), "Neurotrauma," the Department of Health (DOH), Developmental Disabilities Division (DDD), Neurotrauma Program respectfully submits this annual report on the activities of the Neurotrauma Special Fund (NSF).

The NSF was established for the DOH to "develop, lead, administer, coordinate, monitor, evaluate and set direction for a comprehensive system for survivors of neurotrauma injuries." Since January 2003, the NSF is funded by surcharges from neurotrauma-related traffic citations that are deposited into the NSF. The Neurotrauma Program continues to work with neurotrauma survivors and their families to identify priorities for expenditure of moneys that are available in the NSF. The Neurotrauma Advisory Board (NTAB) and the Traumatic Brain Injury Advisory Board (TBIAB) provide stakeholder input into the Neurotrauma Program's activities. Additionally, NTAB offers advisory recommendations regarding the special fund. Feedback from neurotrauma survivors and stakeholders were used to create the Strategic Plan Fiscal Year (FY) 2021-2023 (Attachment II). The highest priorities for use of the NSF as defined by the goals and objectives in the Strategic Plan FY 2021-2023 were to educate survivors, caregivers, parents, and educators of youth on the signs, symptoms, resources, and effects of a neurotrauma injury.

During FY 2024, the Neurotrauma Program continued to work on meeting the goals and objectives of the Strategic Plan FY 2021-2023. Program staff implemented activities to use the NSF in accordance with the mandate of Section 321H-4, HRS, in collaboration with the NTAB, TBIAB, Brain Injury Association of Hawai'i, families, survivors, and other community stakeholders. Additionally, the Neurotrauma Program organized and gathered both NTAB and TBIAB to revisit the Strategic Plan FY 2021-2023 and update it to create Strategic Plan FY 2025-2030 (Attachment III).

Members of Hawai'i's neurotrauma community contributed personal experiences, ideas, and suggestions to shape the goals and objectives of Strategic Plan FY 2025-2030. Community input was garnered through stakeholder participation in the December 2023 NTAB meeting, January 2024 TBIAB meeting, and subsequent follow up activities. Representatives from the islands of O'ahu, Hawai'i, and Kaua'i shared on matters specific to their island as well as conditions affecting the State of Hawai'i as a whole. Stakeholders included neurotrauma injury survivors, board members, other state agencies, contractors, advocates, families, medical providers, hospital trauma workers, and injury prevention personnel. Goals, objectives, and progress on the Strategic Plan FY 2021-2023 were reviewed and discussed. Stakeholders agreed, Strategic Plan FY 2025-2030 needs to continue work on the four (4) existing goals and objectives with the addition of one (1) new objective under Goal 1.

Section 321H-4, HRS mandates the NSF be used for a "registry of neurotrauma injuries within the state". The purpose of the Hawai'i Neurotrauma Registry (HNTR) is to gather information on the long-term service and support needs of survivors of neurotrauma injuries and their family members. A previous contract to administer the HNTR ended in May 2020. Since this time the Neurotrauma Program researched several options to build onto the existing HNTR. The Neurotrauma Program's focus for the HNTR is to ensure the data collected is a valid representation of the needs of all survivors in Hawai'i, statewide. Options explored included contracting with other State departments and/or private insurance companies to obtain deidentified survivor information from existing databases. Restrictions outlined in the Health Information Portability and Accountability Act (HIPAA) prohibited access to deidentified survivor information from the State databases and private insurance companies declined the opportunity

to collaborate with the State to contribute information for the HNTR.

The Neurotrauma Program then developed a Request for Information (RFI) to solicit information on other methods to implement the HNTR. Based on responses to the RFI it was determined that the Neurotrauma Program needed to consider alternative methods for the HNTR data collection. The Neurotrauma Program went on to research possible technological solutions for a sustainable HNTR that also provides survivors and their caregivers, a tool to support functions of daily living. Ensuing discussions with University of Hawai'i (UH) staff included accessibility of the technology, support to users, and qualifications needed for an organization to launch, build, maintain, and sustain the HNTR. The Neurotrauma Program will work with the UH to create a Scope of Service for management of the day-to-day operations of the HNTR. Community and stakeholder input continues to be gathered through NTAB, TBIAB, community partner discussions, and during community outreach events.

Until a new HNTR can be established, stroke and traumatic brain injury (TBI) data is being collected through the Center for Disease Control's, Behavioral Risk Factor Surveillance System (BRFSS) <https://www.cdc.gov/brfss/index.html>. Hawai'i's BRFSS is managed by DOH's Chronic Disease Prevention and Health Promotion Division. The Neurotrauma Program's participation in the BRFSS includes submission of stroke and TBI questions specific to Hawai'i residents, quarterly data workgroup meetings, and an annual review which includes findings, use of the data, and next steps.

During FY 2025, the Neurotrauma Program will continue to gain community input through NTAB, TBIAB, and community organizations to meet the requirements of Section 321H-4, HRS. In collaboration with our community partners, the Neurotrauma Program will work to maximize awareness of neurotrauma injuries and actions that can be taken to prevent such injuries. The Neurotrauma Program continues to support the work being done through the UH Hawai'i Concussion Awareness Management Program, (HCAMP) by funding the BrainSpace project. HCAMP's BrainSpace project provides students, athletes, parents, coaches, and educators best practice guidelines to recognize and respond to a concussion. The BrainSpace project will allow for increased access to up-to-date information on how the sporting and general community can work together to best support one another when someone is suspected or confirmed for having sustained a concussion.

Additional efforts in FY 2025 will include data collection and analysis aimed at identifying gaps in services for TBI, spinal cord injury (SCI), and stroke survivors and their families. A new objective was added to the Strategic Plan to explore options for a curriculum to guide elementary age children on decision making for lifetime health and the early establishment of good habits to prevent lifestyle choices that contribute to neurotrauma injuries. Overall, the Neurotrauma Program will continue its purpose of improving the statewide system of services and supports for individuals living with neurotrauma in Hawai'i through activities consistent with the goals of the Strategic Plan FY 2025-2030.

REPORT TO THE LEGISLATURE IN COMPLIANCE WITH SECTION 321H-4, HAWAII REVISED STATUTES

Introduction

Pursuant to Section 321H-4, HRS, the DOH-DDD Neurotrauma Program respectfully submits this annual report on the activities of the Neurotrauma Special Fund (NSF) to the Thirty- Third Legislature.

Section 321H, HRS, mandates the DOH to “develop, lead, administer, coordinate, monitor, evaluate, and set direction for a comprehensive system to support and provide services for survivors of neurotrauma injuries;” to establish a Neurotrauma Advisory Board (NTAB); and to administer the NSF. The NSF began accumulating moneys from neurotrauma related traffic citation surcharges (speeding, drunk driving, not wearing seat belts, leaving the scene of an accident involving bodily injury) since January 1, 2003. This report is a status report on activities funded by the special fund for the period of July 1, 2023, to June 30, 2024.

Neurotrauma Advisory Board (NTAB) and Traumatic Brain Injury Advisory Board (TBIAB)

In 1997, the legislature passed Act 333 that created the TBIAB to advise the DOH in the development and implementation of a comprehensive plan to address the needs of persons affected by disorders of the brain. Section 321H, HRS was passed by the legislature in 2002, establishing the NTAB to advise the DOH on the use of the NSF to implement these statutes. As a subset of the NTAB, the TBIAB would continue to exist and advocate on behalf of the individuals affected by brain injury and would advise the DOH in consultation with the NTAB. In 2014, the Legislature amended Section 321H-3, HRS, to reduce NTAB membership from twenty-one (21) to eleven (11) members to obtain quorum while maintaining the same representation of members for the board. All members are appointed by the Director of Health and represent key stakeholder groups statewide. Board members participated in the development of the Strategic Plan FY 2021-2023 and Strategic Plan FY 2025-2030 to guide its work. Current members of the NTAB are listed in Attachment I.

Neurotrauma Program Strategic Plan FY 2021-2023

During FY 2024, the Neurotrauma Program continued work to meet the goals and objectives defined in the Strategic Plan FY 2021-2023. Through NTAB and TBIAB, community members provided the Neurotrauma Program with input on strategies to meet goals and objectives. This Legislative Report provides highlights of how the Neurotrauma Program, in collaboration with many community partners, implemented activities to address the goals and objectives of the Strategic Plan FY 2021-2023.

Use of the Neurotrauma Special Fund

Section 321H-4, HRS, mandates that the NSF shall be used for:

- Education on neurotrauma;
- Assistance to individuals and families to identify and obtain access to services;
- Creation of a registry of neurotrauma injuries within the State to identify incidence, prevalence, individual needs, and related information; and
- Necessary administrative expenses to carry out this section not to exceed two percent (2%) of the total amount collected.

(1) Educational activities:

Consistent with the Strategic Plan FY 2021-2023, Goals 1 and 2, the Neurotrauma Program, in coordination with community partners, provided education on neurotrauma to the public and providers to increase awareness of the effects of neurotrauma, how to respond to an injury, and to improve service delivery and outcomes for survivors of neurotrauma.

Partnerships with Community Organizations and Neurotrauma Awareness

Consistent with Strategic Plan FY 2021-2023, Objective 1.2, the Neurotrauma Program conducted activities to promote awareness of neurotrauma. Throughout FY 2024, the Neurotrauma Program partnered, participated, lead, and supported nineteen (19) virtual and in-person events and presentations statewide. Event attendees were provided promotional products and educational materials related to neurotrauma.

Interactive activities at TBI events allowed participants to experience a few symptoms commonly experienced by TBI survivors and learn how simple tasks can become an overwhelming challenge. Some of the events included helmet giveaways where the attendees were educated on injury prevention, rules of the road, and offered a bicycle or multisport helmet free of charge. Informational handouts were specific to each event covering topics such as prevention of a TBI, strategies for living with TBI, helping a concussed child return to school, and recognizing TBI symptoms. Because SCI injuries often involve head and/or brain injury, the Neurotrauma Program offered SCI and TBI information simultaneously. SCI information shared with the public focused on prevention and resources.

During stroke events, participants were able to complete a stroke risk scorecard with information specific to them, to learn more about stroke risk factors they possess, which may contribute to a stroke, and factors over which they have control. For example, high sodium diets contribute to unhealthy blood pressure levels and sustained high blood pressure is the #1 indicator someone will experience a stroke. Informational handouts included recipes for preparing favorite local dishes with lower sodium content and a tracking sheet to record daily blood pressure results. The Neurotrauma Program also shared BEFAST information (<https://health.Hawaii.gov/nt/stroke/>), which teaches how to recognize a stroke and implement immediate action to minimize injury.

The Neurotrauma Program and partnering agencies worked together to coordinate staffing, schedules, and resources to put on these events. FY 2024 event partners included Queen's Medical Center, Kapiolani Medical Center for Women and Children, Hawai'i Bicycling League, Brain Injury Association of Hawai'i, Leeward Pilots Club, Hawai'i Stroke Coalition, Pacific Disabilities Center (PDC), Family First Hawai'i-Department of Human Services, Iowa Department of Health and Human Services, Tennessee Disability Coalition Brain Injury Alliance of Iowa, TBG Health), and MINDSOURCE Brain Injury Network, plus host/recipient organizations. There were over two thousand (2000) individuals who attended FY 2024 events. Attendees included members of the general public as well as professionals. See Table one (1) for additional information on the outreach activities.

Table 1. Neurotrauma Program Community Outreach and Education

Organization / Event	Topic	Number Educated
Kalihi YMCA bike rodeo	TBI education	75
American Heart Association Walk	Stroke education	100
National Night Out -Schofield	TBI education	100
Brain Injury Oahu Support Group	TBI resources	12
Children and Youth Day	TBI education	200
Brain Injury Association of Hawai'i fundraiser	TBI education	100
Waianae YMCA bike rodeo	TBI education	15
National Night Out – Aliamanu	TBI education	150
Intersection of brain injury and child welfare webinar (recording on NTP website)	TBI education	20+
Brain Injury & Child Welfare Best Practice Guide webinar (recording on NTP website)	TBI education	60+
Honpa Hongwanji health fair	Stroke education	25
St. Francis health fair	Stroke education	100
Brain Injury Association of Hawai'i conference	TBI education	150
Department of Education – Operation Driver Excellence	TBI/SCI education	175
Hongwanji Mission School	TBI education	50
Keoneula Elementary School	TBI education	125
Nuuanu YMCA – Healthy Kids Day	TBI education	300
Ko'olina Children's Festival	SCI education	300
Apostolic Church kupuna	Stroke education	45+
TOTAL:		2172+

Neurotrauma Program event photo gallery



7/27/23 Kalihi YMCA

Offering families free helmets and brain injury information with an emphasis on the importance of helmet use. Bike rodeo riders learning about street safety, the benefits of biking, and having fun!



7/29/23 and 3/30/24 Brain Injury Oahu Support Group

Picnicking members enjoying fellowship and exercise.

Members learning about a TBI's effects on speech & strategies to improve verbal skills.



8/3/23 National Night Out - Schofield



Neurotrauma Program educating military families on brain injury while a partner from Kapiolani Medical Center shares tips for a safe home environment.



8/5/23 American Heart Association Walk

Hawaii Stroke Coalition, educating the public on stroke prevention, symptoms, and the importance of calling 9-1-1 right away.

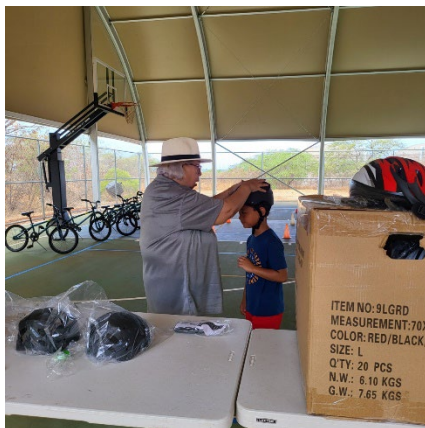


10/7/23 Brain Injury Association of Hawaii

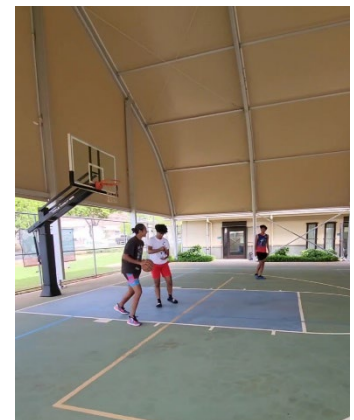


Board members pictured with Governor Josh Green.

Speakers at the Pacific Club fundraiser: Governor Josh Green, TBI survivor Leslie Chan, Dr. Violet Horvath, Kumu Malia, and Esquire Katie Bennett.



10/10/23 Waianae YMCA



Keiki enjoying the bike rodeo, free helmets and engaging in brain injury simulation activities, to better understand the importance of protecting one's brain.



10/12/23 National Night Aliamanu



Partnering with Brain Injury Association of Hawaii and Pacific Disabilities Center to bring military families resources on recognizing and living with brain injury.



12/8/23 Honpa Hongwanji



Stroke education and free blood pressure checks at Honpa Hongwanji mini health fair.



3/2/24 Brain Injury Association of Hawaii Conference



"Put Your Best Brain Forward" Educational & Resource Conference at Ala Moana Hotel, offered to the community, free of charge.



4/27/24 Nuuanu YMCA



Families learning proper fit & care of a helmet, protecting their brain, & street safety at Healthy Kids Day.

NATIONAL STROKE ASSOCIATION®

Stroke Risk Scorecard

Each box that applies to you equals 1 point. Total your score at the bottom of each column and compare with the stroke risk levels on the back.

RISK FACTOR	HIGH RISK	CAUTION	LOW RISK
Blood Pressure	■ 130/≥80 or unknown	■ 120-129/<80	■ <120/<80
Atrial Fibrillation	■ Irregular heartbeat	■ I don't know	■ Regular heartbeat
Smoking	■ Smoker	■ Trying to quit	■ Nonsmoker
Cholesterol	■ >240 or unknown	■ 200-239	■ <200
Diabetes	■ Yes	■ Borderline	■ No
Physical Activity	■ None	■ 1-2 times a week	■ 3-4 times a week
Weight	■ Overweight	■ Slightly overweight	■ Healthy weight
Stroke in Family	■ Yes	■ Not sure	■ No
TOTAL SCORE	■ High Risk	■ Caution	■ Low Risk

NATIONAL STROKE ASSOCIATION®

Risk Scorecard Results

High Risk ≥ 3: Talk to your healthcare provider immediately and ask about a stroke prevention plan. Make an appointment today.

Caution 4-6: You have several risks that if elevated will place you at a higher risk for stroke. Take control now and work towards reducing your risk.

Low Risk 6-8: You're doing well at controlling stroke risk! Continue to stay informed about your numbers. Get tips at www.stroke.org.

Ctrl+Click on the “Scorecard” or link below to go to the Neurotrauma Program website and learn more about stroke and self-assessing your risk level for having a stroke:

<https://health.hawaii.gov/nt/news/stroke/stroke-symptoms-and-your-own-stroke-risk/>

(The stroke self-assessment tool is for educational purposes and does not diagnose or supersede advice from a qualified medical provider. Regular visits with your primary care provider to manage your health is highly recommended.)

FAMILY FIRST
Keeping families together

DATE: MARCH 8, 2022; 1:30PM-2:30 PM HST

The Hawai'i Department of Health Neurotrauma Program invites you to join us to learn about 3 Iowa organizations collaborating to address “Family preservation through Policy, Training and Identification”. For families involved with child welfare services the team considers whether or not a history of head injury is causing a barrier to success. When a history of head injury is identified, the Iowa team works to break down those barriers with family focused solutions.

TOPICS:

- Research on intersection of brain injury and child welfare
- Implementation and impact of Family First Act
- Implementation of pilot Resource Facilitation within child welfare services
- Framework for embedding Resource Facilitation in child welfare programs

Presenters:



James Pender, MSW, LMSW
Brain Injury Grant Manager
Iowa Department of Public Health



Janee Harvey
Division Administrator for Adult Children and Family Services
Iowa Department of Human Services



June Klein-Bacon, BSW, CBIST
Projects Manager and Neuro Resource Facilitator
Brain Injury Alliance of Iowa

There is no cost to attend this virtual presentation.

Please email michele.tong@doh.hawaii.gov if you would like the Zoom link to attend

Ctrl+Click on the “Family First” poster or link below to go to the Neurotrauma Program website and view a recording of Iowa’s pilot project working with adults with brain injury to meet court requirements and retain their parental rights.

<https://health.hawaii.gov/nt/news/tbi/family-preservation-through-policy-training-and-identification/>

The Impact of Brain Injury in Parenting and Child Welfare


DATE: NOVEMBER 9, 2023; 9:00 AM-11:30 AM HST

The Hawai'i Department of Health Neurotrauma Program and Child Welfare Services - Family First Hawai'i invites you to a webinar with some of the authors of the Brain Injury and Child Welfare Best Practice Guide. Each year millions of individuals with a Traumatic Brain Injury go undiagnosed or misdiagnosed. In 2019, parental rights were terminated 2,135 times in the United States. How many families might have been kept intact had the parent been assessed and received interventions responsive to brain injury symptoms? Join us to learn about identifying and addressing a brain injury to help families stay together and move forward, safely.


TOPICS:

- Impact of brain injury within the child welfare system
- Identification of brain injury to improve outcomes for families
- Opportunities to engage brain injury services and child welfare programs

SPEAKERS




Jim Pender
Executive Director
Family First Hawai'i




Wendy Elms
Executive Director
Child Welfare Services



Dr. Drew Nagata
Executive Director
Neurotrauma Program



June Klein-Bacon
Executive Director
Neurotrauma Program



Kelly Miller
Executive Director
Neurotrauma Program

WHO SHOULD ATTEND? Persons interested in identifying and addressing the effects of brain injury. This includes administrators and staff involved with brain injury advocacy, education, child welfare system, foster care, juvenile justice, vulnerable populations, health providers, policy makers, social workers, etc.

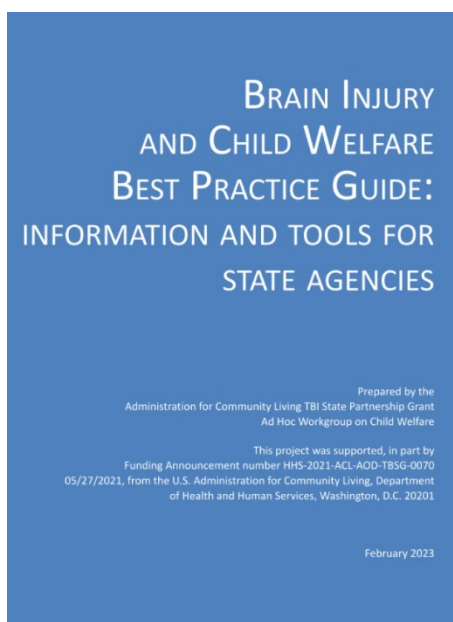
PARTNERING FOR A STRONGER HAWAII

There is no cost to attend this virtual presentation.

Please email michele.tong@doh.hawaii.gov for the Zoom link to attend.

Ctrl+Click on the “Impact of Brain Injury” poster or the link below to go to the Neurotrauma Program website and view a recording of Traumatic Brain Injury State Partnership Program on Brain Injury and Child Welfare

<https://health.hawaii.gov/nt/news/tbi/impact-of-brain-injury-in-parenting-and-child-welfare/>



Ctrl+Click on the “Best Practice Guide” or the link below to access the Traumatic Brain Injury State Partnership Program on Brain Injury and Child Welfare – Best Practice Guide.

<https://static1.squarespace.com/static/5eb2bae2bb8af12ca7ab9f12/t/646e2988b06d06606e93aec5/1684941194342/Brain+Injury+and+Child+Welfare+Best+Practice+Guide+5.24.23.pdf>

Through membership in National Association of State Head Injury Administrators (NASHIA), the Neurotrauma Program was able to network with Iowa’s Department of Public Health, Brain Injury grant manager, James Pender. Together, Iowa’s Department of Public Health, Department of Human Services, and Brain Injury Alliance (<https://biaia.org/>) launched an innovative pilot project that assessed adults, involved with the Iowa Child Welfare System, for brain injury. Participation in the project was voluntary. Participants assessed as positive for a brain injury were provided resources and supports to work towards addressing barriers that prevented them from completing court requirements related to their child welfare case. Although the number of pilot participants was not a significant sample of the population, outcomes from the pilot were promising. On March 8, 2022, the Iowa team, hosted by the Neurotrauma Program, did a virtual presentation of their findings. Mr. Pender returned on October 25, 2023, to provide an update on the pilot and an introduction to their work for those who missed the 2022 presentation.

From their work on the pilot, the team expanded to include staff from Tennessee Disability Coalition, TBG Health, and MINDSOURCE Brain Injury Network. Together they formed Traumatic Brain Injury State Partnership Program (TBISPP) and authored the “Brain Injury and Child Welfare Best Practice Guide”, referenced in the picture above. On November 9, 2023, the TBISPP team introduced the guide to a little more than eighty (80) attendees from state, federal and private organizations working in or with Hawaii’s Child Welfare system. Feedback from the attendees indicated a high level of satisfaction with the presentation and the intent to apply what was learned, to their own work. For reference, below are links to information on each of the additional TBISPP partners.

- <https://www.tndisability.org/>
- <http://www.tbqhealth.com/>
- <https://mindsourcecolorado.org/>

(2) Assistance to individuals and families to identify and obtain access to service activities:

DOH Neurotrauma Program Information and Resource Referral

The Neurotrauma Helpline provides information and resource referrals to survivors of neurotrauma, family members, and professionals assisting survivors in identifying and obtaining access to services and supports. During FY 2024, the Neurotrauma Program provided

information and resource referral assistance twenty-nine (29) times. Eleven (11) contacts were initiated by professionals, five (5) by a family member, seven (7) by survivors, two (2) by friends, one (1) by a television company, one (1) by a marketing company, and the status of the remaining two (2) requestors is unknown. The time needed to manage each request varies between a few minutes to several hours of dedicated staff time to ensure everyone who contacts the Neurotrauma Program receives proper attention. From the twenty-nine (29) contacts, approximately one hundred thirty (130) interactions were generated.

There were thirteen (13) requests for assistance regarding traumatic brain injury, six (6) for stroke, and one (1) for spinal cord injury. The nine (9) remaining requests were for a variety of information related to neurotrauma but not a specific injury. Each year, the requests for assistance reflect a need for case management services. Most requests also contain multiple topics on which a person would like assistance or information. The top request in FY 2024 were fourteen (14) requests for resources needed for daily living and accessing community services, six (6) requests to be connected to an appropriate medical provider, and two (2) requests related to communicating with the requestor's insurance company.

Not reflected in the Helpline numbers are interactions with brain injury support groups, NTAB and STBIAB members who convey neurotrauma related needs, concerns, and experiences for which they are seeking or for which they have been sought out for assistance. The breadth of knowledge and resources from the boards has been extended to support one another's efforts to address these requests. The concerted efforts have resulted in the building of a stronger community of support and an expansion of the resource knowledge base which each member can utilize in their personal and professional lives.

(3) Lasting Impact of the Neurotrauma Special Fund:

Since its inception, the Neurotrauma Program has strengthened Hawai'i's neurotrauma system of care by contracting with organizations respected for their work in neurotrauma. Relationships nurtured by the Neurotrauma Program have resulted in programs that have sustained themselves, flourished, and who continue to benefit the State of Hawai'i.

University of Hawai'i, Hawai'i Concussion Awareness Management Program

From 2010-2016 the NSF funded UH's HCAMP, to systematically track concussion related activity in high school sports. Accomplishments resulted in data informed measures that promote safer playing conditions, concussion awareness trainings, guidelines to support someone who has been concussed, and the passage of Hawai'i's Concussion Law, Act 262, (<https://hcamp.info/downloads/act262.pdf>). Act 262 prioritizes the health and safety of the athlete by requiring a player with a suspected concussion be removed from play, cleared by a health professional for return to play, and sets protocols for a gradual return to play and return to learn.

HCAMP thrives on educating the community through digital and in person platforms which allowed the HCAMP team to reach more than ten thousand (10,000) participants in calendar year 2024. Project: Head, Neck, Spine is a standards-based resource specifically focused on recognition, awareness and education of head, neck, and spine injuries. The online curriculum allows for self-paced learning and was accessed by six hundred twenty (620) students and educators. BrainSpace is an education, information, and resource portal on concussions that was accessed by eight thousand eight hundred ninety-seven (8,897) coaches, student athletes, parents of athletes, and educators. Other educational events attended and/or hosted by HCAMP captured the attention of an additional six hundred eighty-five participants (685). See Table two (2) for additional information on education and outreach.

Table 2. University of Hawai'i, Hawai'i Concussion Awareness Management Program Education and Outreach

Project: Head, Neck, Spine	Participants	Number
Jan 1, 2024 - Oct 18, 2024	Middle school Students	595
	High School Students	16
	Educators	9
BrainSpace	Participants	
Jan 1, 2024 - Oct 21, 2024	Coaches	2075
	Parents	2787
	Student Athletes	3244
	Educators	791
Other Education Events (February - September 2024)	Target Participants	Estimated Numbers
Kauai Health Fair	Community	exhibit
Kauai Youth Football	Youth Football Coaches	70
JPS football	Youth Football Coaches	50
Brain Injury Alliance Exhibit	Community	exhibit
Hawaii Athletic Directors Association	Athletic Administrators/Principals	exhibit
HPH/HCAMP sport medicine summit	Medical Professionals	85
HCAMP/HuTT Clinic - Maui	Football Coaches	38
HCAMP concussion education and awareness - Farrington	High School Coaches	42
DOE Athletic Training Workshop	High School Athletic Trainers	70
Punahou Athletic Training	Athletic Trainers	12
JPS football	Youth Football Coaches	88
American Youth Soccer Association	Parents, coaches, athletes	30
Kinesiology and Rehab Science	College students	100
Kinesiology and Rehab Science	College students	100
TOTAL		10,000+

Queens Medical Center and Hawai'i Stroke Coalition

In Hawai'i, stroke is the third (3rd) leading cause of death. Every minute a stroke goes untreated, one-point-nine (1.9) million brain cells die. Appropriate care administered immediately can minimize damage and dysfunction caused by stroke. Through the foresight and efforts of QMC's Medical Director of Telemedicine and Neurocritical Care Neurology, a request was made for use of NSF to increase responsiveness of stroke care to Hawai'i's more rural area and neighbor island communities. A contract with QMC from 2010 – 2016 gave rise to Hawai'i's Stroke Network (HSN). Funding was used to purchase telemedicine equipment for QMC Punchbowl location (the "hub") and eight (8) statewide "spoke" sites. In 2022 a ninth (9th) spoke location was added, increasing Hawai'i's capacity to serve additional patients. Emergency Department doctors and nurses, hospitalists, and administrators of the hub and all spoke hospitals were educated on stroke care protocols and use of telemedicine technology. As the hub, QMC Punchbowl has a neurologist on-call twenty-four (24) hours a day, seven (7) days a week, to evaluate stroke patients from the nine (9) spoke hospitals via the telemedicine equipment to make treatment recommendations in the best interest of the patient.

In addition to the creation of the HSN, came the creation of the Hawai'i Stroke Coalition (HSC) (<https://Hawai'istrokecoalition.org/>). HSC brings together all of Hawai'i's stroke medical providers to continuously and systematically track and review stroke care in Hawai'i, allowing for evidence-based decisions to improve care. One result of the quality improvement measures involves all stroke hospitals following the same protocol and a stroke patient being serviced by the most appropriate location, rather than automatically being taken to the hospital covered under their insurance plan. By avoiding delays in the delivery of stroke treatment, patients retain more undamaged brain cells, experience better health outcomes, and sustain less disability. Improved communication and standards of efficiency allow Hawai'i's providers to consistently achieve faster stroke care delivery times than their national counterparts. From 2015 to 2023 Hawai'i has consistently achieved a higher proportion of patients receiving stroke intravenous (IV) treatment within a thirty (30) minute window (the recommended time frame for the greatest chance of treatment effectiveness) than the rest of the nation. In 2023, nationally, thirty-eight-point-nine percent (38.9%) of patients were treated within the thirty (30) minute window. In Hawai'i, fifty-nine-point-one percent (59.1%) of patients were treated within the thirty (30) minute window.

Based on achievements from the first (1st) contract and technological advances in stroke care, the Neurotrauma Program entered into a second (2nd) contract with QMC to bring RAPID, superior imaging software, to HSN providers. RAPID imaging identifies patients outside the four and a half (4½) hour window for IV stroke treatment, excludes treatment for patients with symptoms mimicking stroke, detects the location of a large vessel occlusion (LVO), and shows areas of the brain affected or that will be affected by a lack of blood flow due to the LVO. Knowing the location of an LVO and salvageable area of a patient's brain allows the physician to determine if the patient will best be served through mechanical thrombectomy, a surgical procedure to remove the LVO, or pursuit of other care measures.

In FY 2024, eighty-seven percent (87%) of all RAPID imaging scans performed were successful. This translates to thirteen thousand one hundred thirteen (13,113) successful RAPID scans in FY 2024. RAPID imaging aids in Hawai'i stroke teams being able to deliver critical care to minimize the effects of stroke. As familiarity and experience with advancements in stroke care grows, so does use of the technology and the ability to improve quality care measures. See Table three (3) for additional information on stroke care interventions.

Table 3. Stroke care interventions delivered 2020 – 2024

Stroke Care Intervention	2020	2021	2022	2023	2024
IV treatment to break up LVO	0	1	145	442	423
Mechanical thrombectomy to remove LVO	110	141	204	249	303
Neighbor island patient transfers	101	104	123	132	151

From 2020 to 2024, twenty percent (20%) of all patients transferred from the neighbor islands resulted in the use of mechanical thrombectomy. Ninety (90) days post receipt of mechanical thrombectomy treatment, all patients statewide were assessed for functional ability, compared to their pre-stroke abilities. In FY 2023, thirty-six-point-six percent (36.6%) recovered functional independence. In FY 2024, that percentage increased to thirty-seven-point-four percent (37.4%). As stroke is the number one (1) cause of disability in Hawai'i, the significance of recovering one's functional capabilities impacts the quality of life for stroke survivors as well as their family and friends. Additionally, medical and financial resources, that would be used to address the needs of a person disabled by stroke, can be preserved for other purposes.

As a part of both contracts, QMC with HSC provided stroke education and awareness outreach to schools and at community events. Outreach included being able to identify the signs and symptoms of stroke and knowing the best action to take when a stroke occurs is calling nine-one-one (9-1-1). HSC has continued to provide education and outreach through FY 2024, by hosting twenty-one (21) events with two thousand two hundred nine (2,209) plus unique in-person interactions. See Table four (4) for additional information on education and outreach. In an effort to reach a broader audience, HSC conducted Stroke Campaign 2024 with a successful outreach of five million (5,000,000) views. See Table five (5) for additional information on HSC Stroke Campaign 2024.

Table 4. Hawai'i Stroke Coalition and Hawai'i Stroke Network Education and Outreach

Stroke Education and Awareness Event	Number of unique interactions
American Heart Association Heart Walk Health Fair	100-150+
Mililani Town Association Senior Fair	200+
'Imi Pono Cultural & Wellness Fair	60+
Pearl Harbor Elementary School	65+
Senior Lifestyle & 'Ohana Fair	300+
Aulani Benefits Showcase 2023 (w/ blood pressure screenings)	200+
World Stroke Day 2023 <ul style="list-style-type: none"> • Hawaii Matters – Radio Segment • QHS Social Media Posts 	N/A
Hawaii Health Occupations Students of America State Conference	150+
Mililani Mauka Elementary School Career Day	30+
Brain Injury Association of Hawaii Community Conference (Presentation & Resource Fair)	100+
Holomua Elementary School Career Day	60+
Senior & Health Fair – Ka Makana Ali'i (w/ blood pressure screenings)	125+
Honouliuli Middle School	70
Kahuku High & Intermediate School Health Fair	225
Leilehua High School Central District Health Fair	25+
Ewa Makai Middle School #1	225
Ewa Makai Middle School #2	225
2nd Annual "Spring into Health" Fair (w/ blood pressure screenings)	30+
Stroke Walk and Potluck	4
Emergency Medical Services Explorer Program	15-20
TOTAL	2209+

Please visit the following links to see posters and videos created for the HSC Stroke Campaign 2024:

<https://livinghealthy.Hawaii.gov/stroke/>

<https://www.dropbox.com/scl/fo/w7a80uv8oeorlqipd00sd/ADPCkOr8DhYd4b2OvsHx45l?rlkey=n73hgkjl3fojsz22qm9556on&e=1&st=fuxugbsz&dl=0>



Table 5. HSC Stroke Campaign 2024

Media	Run Time	# Views	Exposure Frequency	Reach
30 min TV spots (734 airings)	May - July	4,048,835	6	75% of target audience
15 min pre-roll video	June - Aug	787,958	-----	31% completion rate
16 min social media video	June - Aug	136,812	-----	77% completion rate
HSC website hits	Apr - Aug	-----	-----	31% new users

(4) Development of a registry within the State to identify incidence, prevalence, individual needs, and related information of survivors of neurotrauma injuries:

Section 321H-4, HRS, states the NSF shall be used for the “creation of a registry of neurotrauma injuries within the State to identify the incidence, prevalence, individual needs, and related information.” Incidence of TBI, SCI, and stroke are collected via the Hawai‘i Trauma Registry and the Hawai‘i Stroke Registry, and prevalence is collected via the BRFSS. The goal of the HNTR, consistent with Goal 4 of the Strategic Plan FY 2021-2023, is to identify the individual needs and service gaps of survivors of neurotrauma injuries after they transition back into the community from acute care and rehabilitation. The data obtained from the HNTR shall be used to make data-driven decisions to improve the system of services and supports for survivors of neurotrauma where most needed.

From March 21, 2013, to June 19, 2020, the Neurotrauma Program contracted with PDC to identify and register survivors to the HNTR. The HNTR is not a mandated registry. PDC's efforts from running the voluntary registry, provided data analysis of the needs of five hundred sixty-one (561) unduplicated respondents, statewide. During FY 2021 through FY 2022, efforts were made to continue the HNTR by accessing existing data from current State information systems gathered by Hawai'i's medical providers for Laulima Data Alliance, the Hawai'i Stroke Registry/Get With The Guidelines (GWTG), and Hawai'i Trauma Registry. Although the request was to have the information deidentified prior to sharing, HIPAA compliance prohibited sharing of the data between programs within the DOH. The Neurotrauma Program went on to develop a Request for Information (RFI) to identify potential methods for implementation of the HNTR. Based on responses to the RFI it was determined the Neurotrauma Program needed to consider alternative methods of data collection for the HNTR.

During FY 2023, the Neurotrauma Program and UH College of Education: Kinesiology and Rehabilitation Science (KRS) explored technology that would allow neurotrauma survivors and/or their caregivers to register for the HNTR and receive ongoing benefits by digitally tracking and managing the survivor's daily symptoms. Only applications with a history of proven success, HIPAA compliance, and the ability to incorporate data points from the current HNTR survey were considered. To view the current survey, click on the following: https://health.Hawaii.gov/nt/files/2020/07/Neurotrauma-Survey_DOH_Neurotrauma_Program_rev.-06-25-20.pdf

In FY 2024, the Neurotrauma Program worked with UH KRS to outline the process of acquiring and implementing the use of a health monitoring application. Discussion and work on the matter included training staff for all facets of the project, a timeline in which to conduct activities, recruiting eligible users to register for the HNTR, and how to introduce the benefits of utilizing the application. The application will be furnished to users free of charge.

With Hawai'i averaging eight thousand four hundred (8,400) TBI, SCI and strokes every year, the current focus of the Neurotrauma Program is for the HNTR to identify a data collection system that will allow for gathering of a sample truly representative of the State of Hawai'i's neurotrauma community. For FY 2025, the Neurotrauma Program and UH KRS will work together on a Scope of Services to define a methodology to implement a new HNTR in FY 2026.

(5) Revenues and Expenditures:

In FY 2024, a total of four hundred thirty-five thousand seventy-four dollars (\$435,074) was deposited into the funds from traffic surcharge collections. This amount is a twenty-seven thousand seven hundred twenty-eight dollars (\$27,728) decrease compared to FY 2023. The total expenditure as of June 30, 2024, was one hundred six thousand one hundred thirty-seven dollars (\$146,137). As of July 1, 2024, there was an available cash balance of nine hundred thirty-four thousand eighty-six dollars (\$934,086). A projected FY 2025 budget for the NSF is provided in Attachment IV.

The Neurotrauma Program, with input from the NTAB, TBIAB, and other community constituents, plans to utilize the NSF in accordance with Section 321H-4, HRS, by supporting:

- **Hawai'i Neurotrauma Registry:** Engage in preparatory activities to determine the most effective method to create, implement, maintain, and sustain the HNTR.
- **HCAMP BrainSpace:** Create new and update existing education, information, and resources on concussions, geared specifically for students, parents, athletes, coaches and educators.

- **Education & Dissemination of Information:** Provide opportunities for education on neurotrauma to the public and providers that are in line with the Strategic Plan FY 2025-2030, objectives 1.1, 1.2, 1.3, 1.4, and 2.2. Dissemination of information will be through verbal and written information (e.g., TBI, SCI and Stroke Discharge packets; conferences; events; presentations; the Neurotrauma Program Helpline; etc.) and information on the DOH Neurotrauma website. The website allows the community to access the most up-to-date information and resources on neurotrauma in real time.

ATTACHMENT I

NEUROTRAUMA ADVISORY BOARD

Section 321H-3, HRS

VOTING MEMBERSHIP

Molly Trihey

Angie Enoka

Rita Manriquez

Dr. Kent Yamamoto, M.D.

Leilani Nutt

Billie Jean Wade

Matthew Wells

Milton Takara

Scott Sagum

Stella Wong

Valerie Yamada

TERM REPRESENTATION

Neurotrauma Injury Survivor
Spinal Cord Injury

Neurotrauma Injury Survivor
Traumatic Brain Injury

TBIAB Member
Neurotrauma Injury Survivor
Traumatic Brain Injury

Private Sector
Rehabilitation Hospital of the Pacific

Trauma Center
Queen's Medical Center

Brain Injury Association of Hawai'i
Representative

Trauma Services
Pali Momi Medical Center

At-Large
Neurotrauma Injury Survivor
Traumatic Brain Injury

Chair
Neurotrauma Injury Survivor
Stroke

At-Large
Catholic Charities Hawai'i

At-Large
Neurotrauma Injury Survivor
Traumatic Brain Injury & Stroke

ATTACHMENT II

NEUROTRAUMA PROGRAM STRATEGIC PLAN

FISCAL YEARS 2021-2023

Goal 1: In coordination with community partners, expand educational opportunities to the public sector on all neurotrauma injuries to increase awareness on the effects of neurotrauma and how to respond to an injury.

Objectives:

- 1.1:** Provide survivors and caregivers with awareness of how a neurotrauma injury can affect a person's life immediately following an injury and throughout their lifetime.
- 1.2:** Educate the public on the signs, symptoms and what to do when recognizing a TBI, SCI or Stroke.
- 1.3:** Coordinate public education efforts to maximize the impact and ensure efforts are not being duplicated.

Goal 2: In coordination with community partners, connect providers to educational opportunities to increase awareness of neurotrauma and improve service delivery and outcomes for the survivors they serve.

Objectives:

- 2.1:** Provide social workers and medical providers with insight on survivors' experiences and methods for effective communication to improve collaboration between patient and provider.
- 2.2:** Work with administration and staff involved with educating youth to establish and implement a Return-to-Learn protocol for students exhibiting signs of a TBI, including the identification of TBI signs and symptoms and how to discuss with parents.

Goal 3: Expand survivors', family members', and caregivers' connections to available resources in Hawai'i.

Objectives:

- 3.1:** Work with hospital staff and interested stakeholders to develop and implement an effective way to share information and resources with survivors to increase access to services and supports.
- 3.2:** Provide guidance for members of the neurotrauma community to gather in a safe space to share thoughts, ideas and resources on a regular basis.

Goal 4: Use data to identify the needs and service gaps for survivors of neurotrauma and family members/caregivers.

Objectives:

- 4.1:** Develop and implement a plan for obtaining generalizable data.
- 4.2:** Develop and implement a plan to analyze data and identify service gaps to direct program activities.

ATTACHMENT III

NEUROTRAUMA PROGRAM STRATEGIC PLAN

FISCAL YEARS 2025-2030

Goal 1: In coordination with community partners, expand educational opportunities to the public sector on all neurotrauma injuries to increase awareness on the effects of neurotrauma and how to respond to an injury.

Objectives:

- 1.1 :** Provide survivors and caregivers with awareness of how a neurotrauma injury can affect a person's life immediately following an injury and throughout their lifetime.
- 1.2:** Educate the public on the signs, symptoms and what to do when recognizing a TBI, SCI or Stroke.
- 1.3:** Coordinate public education efforts to maximize the impact and ensure efforts are not being duplicated.
- 1.4** Collaborate with Hawai'i's Department of Education to create and distribute a curriculum for elementary students and teachers on choices and behavior patterns that have historically contributed to neurotrauma injuries.

Goal 2: In coordination with community partners, connect providers to educational opportunities to increase awareness of neurotrauma and improve service delivery and outcomes for the survivors they serve.

Objectives:

- 2.1:** Provide social workers and medical providers with insight on survivors' experiences and methods for effective communication to improve collaboration between patient and provider.
- 2.2:** Work with administration and staff involved with educating youth to establish and implement a Return-to-Learn protocol for students exhibiting signs of a TBI, including the identification of TBI signs and symptoms and how to discuss with parents.

Goal 3: Expand survivors', family members', and caregivers' connections to available resources in Hawai'i.

Objectives:

- 3.1:** Work with hospital staff and interested stakeholders to develop and implement an effective way to share information and resources with survivors to increase access to services and supports.
- 3.2:** Provide guidance for members of the neurotrauma community to gather in a safe space to share thoughts, ideas and resources on a regular basis.

Goal 4: Use data to identify the needs and service gaps for survivors of neurotrauma and family members/caregivers.

Objectives:

- 4.1:** Develop and implement a plan for obtaining generalizable data.

4.2: Develop and implement a plan to analyze data and identify service gaps to direct program activities.

ATTACHMENT IV

PROJECTED BUDGET FOR THE NEUROTRAUMA SPECIAL FUND

FY 2025

Beginning Cash Balance as of 7/1/24	\$	934,086
Estimated Revenues FY 2025	\$	450,000
<u>FY 25 Estimated Expenses</u>		
Contract Encumbrances:		
1. Website Maintenance	\$	60,000
2. BrainSpace	\$	20,000
Behavioral Risk Factor Surveillance System Data	\$	6,000
Get with the Guidelines Stroke Data	\$	6,315
NASHIA Membership	\$	1,250
Education and Awareness Activities	\$	24,000
Personnel	\$	285,065
<hr/>		
Total Expenses	\$	402,630
Estimated Ending Cash Balance as of 6/30/2025	\$	981,456

**[CHAPTER 321H]
NEUROTRAUMA**

Section

- 321H-1 Definitions
- 321H-2 Neurotrauma system
- 321H-3 Neurotrauma advisory board
- 321H-4 Neurotrauma special fund
- 321H-5 Rules

[§321H-1] Definitions. As used in this chapter, unless the context requires otherwise:

"Board" means the neurotrauma advisory board established under section 321H-3.

"Department" means department of health.

"Director" means the director of health.

"Neurotrauma" means a severe chronic disability of a person that is attributable to an injury to the central nervous system, such as traumatic brain injury and spinal cord injury, and likely to continue indefinitely. Neurotrauma can include other neurological dysfunctions but does not include substance misuse and abuse, Alzheimer's disease, or the infirmities of aging. Neurotrauma or other neurological deficits result in substantial functional limitations in two or more of the following areas:

- (1) Self-care;
- (2) Speech, hearing, or communication;
- (3) Learning;
- (4) Mobility;
- (5) Self-direction;
- (6) Capacity for independent living; and
- (7) Economic sufficiency. [L 2002, c 160, pt of §2]

[§321H-2] Neurotrauma system. The department of health shall develop, lead, administer, coordinate, monitor, evaluate, and set direction for a comprehensive system to support and provide services for survivors of neurotrauma injuries. [L 2002, c 160, pt of §2]

§321H-3 Neurotrauma advisory board. (a) There is established within the department a neurotrauma advisory board to advise the director in implementing this chapter.

(b) The board shall consist of eleven members to be appointed by the director. The director shall designate a member to be the chairperson of the advisory board. The director or a designee shall serve as an ex officio, nonvoting member of the advisory board. The director may also appoint up to three state and county representatives whose work relates to

neurotrauma to be ex officio, nonvoting members of the board. The members shall serve for a term of four years; provided that upon the initial appointment of members, two shall be appointed for a term of one year, three for a term of two years, three for a term of three years, and three for a term of four years. In establishing the advisory board, the director shall appoint:

- (1) Two survivors of neurotrauma or their family members (one for traumatic brain injuries and one for spinal cord injuries);
 - (2) One member of the Brain Injury Association of Hawai'i;
 - (3) One member representing the state traumatic brain injury advisory board;
 - (4) Two members representing private sector businesses that provide services for neurotrauma survivors;
 - (5) One member representing trauma centers that provide services for neurotrauma survivors;
 - (6) One representative for persons with stroke; and
 - (7) Three at-large members.
- (c) The members shall serve without compensation but shall be reimbursed for actual expenses, including travel expenses, that are necessary for the performance of their duties.
- (d) The number of members necessary to constitute a quorum to do business shall consist of a majority of all the voting members who have been appointed by the director and have accepted that appointment. When a quorum is in attendance, the concurrence of a majority of the voting members in attendance shall make any action of the board valid. [L 2002, c 160, pt of §2; am L 2014, c 191, §1]

§321H-4 Neurotrauma special fund. (a) There is established the neurotrauma special fund to be administered by the department with advisory recommendations from the neurotrauma advisory board. The fund shall consist of:

- (1) Moneys raised pursuant to the surcharges levied under sections 291-11.5, 291-11.6, 291C-12, 291C-12.5, 291C-12.6, 291C-102, 291C-105, and 291E-61;
 - (2) Federal funds granted by Congress or executive order, for the purpose of this chapter; provided that the acceptance and use of federal funds shall not commit state funds for services and shall not place an obligation upon the legislature to continue the purpose for which the federal funds are made available; and
 - (3) Funds appropriated by the legislature for the purpose of this chapter.
- (b) The fund shall be used for the purpose of funding and contracting for services relating to neurotrauma as follows:

- (1) Education on neurotrauma;
- (2) Assistance to individuals and families to identify and obtain access to services;
- (3) Creation of a registry of neurotrauma injuries within the State to identify incidence, prevalence, individual needs, and related information; and
- (4) Necessary administrative expenses to carry out this chapter not to exceed two per cent of the total amount collected.

(c) Moneys in the neurotrauma special fund may be appropriated to obtain federal and private grant matching funds, subject to section 321H-4(a)(2).

(d) In administering the fund, the director shall maintain records of all expenditures and disbursements made from the neurotrauma special fund.

(e) The director shall submit to the legislature an annual report on the activities under the neurotrauma special fund no later than twenty days prior to the convening of each regular session. [L 2002, c 160, pt of §2; am L 2006, c 129, §6]

[§321H-5] Rules. The director may adopt rules under chapter 91 necessary to carry out this chapter. [L 2002, c 160, pt of §2]