

REPORT TO THE TWENTY-EIGHTH LEGISLATURE

**STATE OF HAWAII
2016**

**PURSUANT TO SECTION 321H-4
HAWAII REVISED STATUTES**

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



PREPARED BY:

**STATE OF HAWAII
DEPARTMENT OF HEALTH**

December 2015

EXECUTIVE SUMMARY

In accordance with the provisions of Section 321H-4, Hawaii Revised Statutes (HRS), "Neurotrauma," the Department of Health (DOH) respectfully submits this annual report on the activities of the Neurotrauma Special Fund (NSF).

The NSF was established for "DOH to develop, lead, administer, coordinate, monitor, evaluate and set direction for a comprehensive system to support and provide services to survivors of neurotrauma." The sources of funding for the NSF are surcharges from traffic citations that are related to causes of neurotrauma injuries.

Surcharges from the specified traffic citations have been deposited into the NSF since January 2003. DOH continues to work with neurotrauma survivors and their families to identify priorities for expenditure of moneys that are available in the NSF. The highest priority of NSF expenditures, based on the feedback received from neurotrauma survivors and constituents, is to provide neurotrauma survivors assistance with access to appropriate services and supports. The Neurotrauma Advisory Board (NTAB) provides stakeholder input into the DOH's neurotrauma activities and advisory recommendations regarding the special fund.

During FY 2015, the DOH has worked diligently and successfully to implement activities to use the NSF in accordance with the mandate of Section 321H-4, HRS, in collaboration with the State's Traumatic Brain Injury Advisory Board (STBIAB), NTAB, Brain Injury Association of Hawaii, families, survivors, and other community stakeholders. The DOH supported:

- The Concussion Management Study involving high school athletes in Hawaii's public schools as well as concussion education and awareness presentations statewide targeting youth leagues and organizations;
- The Statewide Stroke Network with the Queen's Medical Center to develop and implement a process to provide citizens of Hawaii with appropriate access to care in their respective communities;
- The Neurotrauma Registry by the University of Hawaii, Pacific Disabilities Center (formerly: Pacific Basin Rehabilitation Research and Training Center).

The Neurotrauma Program, through reorganization moved from the DOH Developmental Disabilities Division's Outcomes and Compliance Branch to the newly formed Community Resources Branch. The Neurotrauma Program looks forward to further accomplishments and implementing new activities in its new branch.

For FY 2016, the DOH will continue to work closely with the STBIAB, NTAB and community organizations to identify opportunities to meet its goals which are consistent with Chapter 321H-4, HRS. The Neurotrauma program will meet its mandates by continuing its contracts to collect and analyze data, fostering training to prevent disabilities, educating and dissemination of information to Traumatic Brain Injury (TBI), stroke and spinal cord injury survivors and their families, and planning strategically to provide a comprehensive neurotrauma system.

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

Introduction

Pursuant to Section 321H-4, Hawaii Revised Statutes (HRS), the Department of Health (DOH) respectfully submits this annual report on the activities of the Neurotrauma Special Fund (NSF) to the Twenty-Eighth Legislature.

Chapter 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 provides a status report on the fund activities for the period of October 2014 to September 2015.

Neurotrauma Advisory Board (NTAB)

The Neurotrauma statute was passed by the legislature and codified in Chapter 321H, HRS in 2002, and the NTAB was subsequently established to advise the DOH on the use of the NSF to implement these statutes. The Board’s membership consists of key stakeholder group representation statewide; and board members have developed strategic goals to carry out their functions. Current members of the NTAB are listed in Attachment I.

Use of the Neurotrauma Special Fund

Section 321H-4, HRS, specifies that the NSF shall be used as follows:

- 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 chapter not to exceed two per cent of the total amount collected.

(1) Educational activities:

The DOH staff continued to support numerous educational activities through:

- a) Collaborating and contracting with health organizations;
- b) Sponsorship and participation in conferences;
- c) Public exhibits;
- d) Dissemination of educational materials to board members and list serve;

- (e) Board membership of individuals with neurotrauma and their families; and utilization of the NSF to procure education related materials and activities for public dissemination.

DOH has been providing neurotrauma education since 2008 through contracts and partnerships with the University of Hawaii, Pacific Disabilities Center (UH-PDC) Ho'oikaika Traumatic Brain Injury Peer Mentoring Program, ThinkFirst Hawaii Chapter, and the Brain Injury Association of Hawaii (BIA-HI). The contract with the UH-PDC ended in September 2012 but volunteer mentors who were part of the Ho'oikaika program renamed themselves Hui Malama Po'o and continue to meet on a regular basis to carry on with experiences gained from the Ho'oikaika project.

In February 2014, the Brain Injury Association of Hawaii (BIA-HI) opened the Brain Injury Resource Center as a result of collaboration between the DOH and the BIA-HI. DOH provided funding to establish a framework for a resource center. The BIA-HI Resource Center is currently impacting the lives of five individuals with brain injury who have been accepted to the program through vocational rehabilitation.

The DOH Neurotrauma Program has funded, since August 2010, the University of Hawaii-Manoa, Department of Kinesiology and Rehabilitation Science (UH-KRS) to conduct a research study on concussion management of all high school athletes in the State of Hawaii. This study:

- Compares the Immediate Post-Concussion Assessment and Cognitive Testing (ImPACT) concussion management software to obtain baseline and post-concussion test results with the Graded Symptom Checklist (GSC) tool;
- Provides primary care physicians and high school athletic trainers with data from the concussion management program to so that they may make recommendations to allow for student athletes safe return to play;
- Submits Hawaii-based longitudinal research evidence for concussion management protocol utilizing data obtained from ImPACT, Standard Assessment for Concussion (SAC) to develop best practices;
- Trains high school administrators, athletic trainers, physicians, and neuropsychologists participating in the study;
- Educates coaches, parents, and athletes on concussion; and
- Provides concussion awareness and education to community and youth organizations.

A total of 67 schools participated in the baseline testing and of the 67 schools, 21 schools were private schools belonging to the Interscholastic League of Honolulu (ILH). The remaining schools are all public schools statewide.

In the school year of August 2014-September 2015, a total of 12,214 students and 12,434 students in the previous school year, were baseline tested using ImPACT management software. Of these 12,214 student-athletes, a total of 1,030 or 8% of the students reported to have concussions, compared to 1,692 or 14% concussions reported in the previous school year. The decrease in the number of concussion cases reported can be attributed to placing the responsibility of baseline testing and reporting concussions on schools (coaches, athletic directors, and athletic trainers) as opposed to having HCAMP conduct these baseline testings. Not all schools have athletic trainers which made baseline collection challenging. As the number of baselines testing decreased, so did the number of concussions reported. HCAMP data cannot determine with confidence why concussion data decreased besides an increase in education, awareness and improved reporting by the athletic trainers.

The UH-KRS also provided data to DOH on injury rates by sport and gender over school years 2014-2015. It is of no real surprise that the sport of football continues to have the highest percentage of concussions primarily due to having a significantly higher number of students participating in football compared to other sports.

To determine risk for concussion, it is important to determine the rate of injury by the type of sport. UH-KRS, determined that girls' judo continues to have the highest rate of concussions per 10,000 athlete exposures, followed by football, girls' soccer, and boys' judo. Athlete exposure is a unit of susceptibility to injury, which is defined as one athlete participating in one game or practice, in which he/she is exposed to the possibility of athletic injury. These findings will provide athletic trainers, school administrators, and school athletic governing bodies statewide with objective injury data that directly influences the development of concussion education, prevention and management programs.

Of the participating schools, students in the 9th and 11th grades who play contact sports that have a risk for concussion, have an ImPACT assessment tool administered for baseline measurement and/or post-concussion assessment at the start of the school year. The coaches, trainers and aides at the schools have been trained to administer these tests to the students. Student-athletes baseline tests are critical to athletic trainers to assess readiness to return to participation following a concussion. Without a baseline test, student-athletes may be "cleared" to return to participation prematurely and at risk for a more severe concussion.

A major component of the contract with UH-KRS is increasing education and awareness of concussion among high school student-athletes, school administrators, game officials, parents, and athletic association officials. In December 2012, the DOH modified its contract with the UH-KRS to develop and implement a statewide concussion educational and awareness program specifically targeted to organizations and facilities that care, support, and provide services to

children, youth and their families. During the period August 2014 to September 2015, UH-KRS completed 13 community presentations on education and awareness on sports concussions to organizations. The following organizations received concussion education and awareness through the contract with UH-KRS: Pop Warner Organization (Oahu and Kauai), Hawaii Association for Health, Recreation and Dance (HAHPERD), Health Fairs, Concussion Clinics at High Schools, Conferences, Sports Festivals, Radio Shows, Play Sports Hawaii, Big Boys Football League, Hawaii Island Youth Football League, Palama Settlement Youth Football and Hawaii Pacific Health Kids Fest. Athletic trainers, coaches, sports officials, team volunteers, youth players, and parents also attended these education and awareness sessions, resulting in over 1,300 trained participants. Based on random post-test surveys conducted by UH-KRS participants had a better understanding of what a concussion is, how to recognize signs and symptoms of a concussion, what to do and who to contact in the event of a concussion or a suspected concussion after participating in the education and awareness sessions.

Lastly, the UH-KRS has developed a website (www.hawaiiconcussion.com) to post reports and articles on concussion and provide information about concussion related activities in Hawaii high schools, parent groups, and community organizations. The website contains awareness and education materials on concussion focused specifically on high school sports, coaches, athletic trainers, parents, state and national resources, news, and upcoming concussion related events. During the school year August 2014 – September 2015, UH-KRS included a section on the website that focuses on concussion awareness and education targeted at children and youth, their parents, youth sports, recreational organizations, childcare facilities and community organizations. UH-KRS will also continue to work on the development of a concussion application for future use as well as continue to pursue sustainability of HCAMP beyond budgeted year via the concussion coalition.

DOH staff will continue to promote education and awareness activities through partnerships and collaborations with the respective advisory boards and community stakeholders statewide.

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

The DOH Neurotrauma Program continues to fund the Queen's Medical Center (QMC) to:

- Establish a statewide stroke network to improve statewide access to timely, expert stroke care evaluation and treatment with Tissue Plasminogen Activator (tPA) without the need to transfer patients to a tertiary facility;
- Educate the public about:
 - the signs and symptoms of stroke,
 - the need for emergent evaluation,
 - the availability of effective treatment with tPA; and

- Teach medical providers and support development of stroke care pathways to expedite evaluation and treatment, monitor for complications, and provide standard post-acute stroke care.

As of October 2015, there are six hospitals serving as “spoke” sites that are linked to QMD; QMC serves as the “hub”. The six sites are: Molokai General Hospital, Wahiawa General Hospital, Hilo Medical Center, QMC West, Kona Community Hospital, and Maui Memorial Center. A contract has been initiated with North Hawaii Community Hospital for the seventh “spoke” site. Emergency department doctors and nurses, hospitalists, and administrators of these hospitals have been educated on stroke care paths and protocols and received in-services on use of the telemedicine technology. As of October 2015, there have been a total of 190 telestroke calls. 143 or 75% were completed calls and 47 or 25% were incomplete (non-telestroke or experienced technical difficulties). There were 15 telestroke calls from Molokai General Hospital, 41 calls from Wahiawa General Hospital, 32 calls from Hilo Medical Center, 39 calls from Queen’s Medical Center West, 9 calls from Kona Community Hospital, and 7 calls from Maui Memorial Center. 58 patients were administered tPA with 41 patients being transferred to QMC for treatment.

Community Education on Stroke:

- QMC West Oahu Community Health Fair was held in May 2014 and over 1,000 individuals on stroke signs and symptoms and the telestroke network.
- A public health campaign “Spot a Stroke” a joint effort between the DOH, QMC, and the American Heart Association, placed stroke education signs on every Oahu bus from May 2014-September 2014. This campaign resulted in an estimated 14 million impressions on Oahu bus riders.

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

In March 2013, the DOH executed a contract with the University of Hawaii, Pacific Disabilities Center (UH-PDC) to develop and administer a neurotrauma registry, and develop and disseminate an effective public service announcement and social media campaign to provide education and awareness of neurotrauma and encourage participation in the neurotrauma registry. Information obtained and analyzed from the registry will assist the DOH in prioritizing activities to support the needs of neurotrauma survivors. Creating and maintaining a neurotrauma registry is complementary to the Hawaii DOH, Healthy Hawaii Initiative in the areas of research, public and professional education, and evaluation.

As of September 2015, the UH-PDC accomplished the following activities:

1. Enrolled 121 individuals into the Hawaii Neurotrauma Registry (HNTR).
2. Distributed 10,410 of their brochures and 10,424 Neurotrauma educational materials at various public events statewide.

3. Conducted 34 presentations on the neurotrauma registry to over 700 professionals who interact with or provide support or direct services to survivors of neurotrauma injuries.
4. Designed and ran 16 print ads on neurotrauma and the registry. HNTR produced 3 newsletters with over 400 subscribers.
5. Disseminated a total of 1,444 radio Public Service Announcements on neurotrauma and the registry, and made 10 TV programs appearances (duplicated counts on broadcast).
6. Created HNTR Facebook page effective July 2014 with 65 Facebook posts. This Facebook page is maintained continuously. Twitter post were effective October 2014 with 20 posts and YouTube effective February 2015 with 72 hits.

As a related research activity, HNTR is compiling information on service and support needs (needs assessment) of individuals who have experienced a neurotrauma injury and their families. Information of available services and supports to individuals and families will go into a searchable database operated and maintained by the UH-PDC.

In accordance with the contract, the UH-PDC is required to establish an advisory board for the neurotrauma registry. There are six individuals who are on the HNTR Advisory Board. HNTR is seeking more Advisory Board members, from the Neighbor Islands.

(4) Necessary administrative expenses to carry out this chapter:

In FY 2015, the DOH expended \$50,730 from the NSF for various educational and awareness activities on a statewide basis. These expenses were consistent with the goals and objectives set forth by the STBIAB, NTAB, and DOH.

Collection and Expenditure of Funds

In FY 2015, a total of \$784,838 has been deposited into the fund from traffic surcharge collections. This amount is a \$16,904 decrease as compared to FY 2014. Total encumbrance as of June 30, 2015 was \$676,178. As of July 1, 2015, there was a beginning unencumbered cash balance of \$1,879,342 in the NSF.

A projected FY 2016 budget for the NSF is provided in Attachment II. The DOH Neurotrauma Program with the input from the STBIAB, NTAB and other community constituents plans to utilize the NSF in accordance to Section 321H-4, HRS, through:

- **Concussion Management Project** (see above) continuation with the University of Hawaii at Manoa;
- **Neurotrauma Registry** (see above) continuation with the University of Hawaii at Manoa, Pacific Disabilities Center;
- **Statewide Stroke Network** with Queens Medical Center to increase capacity to treat patients throughout the island chain by educating providers to assess patients to determine appropriateness of using Tissue Plasminogen Activator

(tPA) to prevent disabilities without having to transfer patients to a tertiary facility; and

- **Education & Dissemination of Information** to the public through dissemination of written information (e.g. TBI, Spinal Cord and Stroke Discharge folders; conferences; helpline; mentoring, etc.) but also through its website. The website allows the program to give and receive feedback from the public.

To date, one of the three Neurotrauma special funded positions is filled. The DOH is hopeful that its second and third position will be filled by the end of FY 2016. Duties of the Neurotrauma positions will include planning and coordination of neurotrauma awareness/education activities, information and referral supports for individuals with neurotrauma and their families, support for access to appropriate neurotrauma services, support for the Neurotrauma and State Traumatic Brain Injury Advisory Board (STBIAB), needs assessment, neurotrauma trending, and systems analysis.

The addition of the second and third employees will allow the program to conduct more activities in the areas of community outreach, neurotrauma education and awareness, and registry development, and to update the neurotrauma website. Partnerships and collaboration with public and private entities involved in neurotrauma related activities are important to prioritize and implement key activities that support individuals with neurotrauma and their family members.

- **Brain Injury Educational Event** as indicated in Attachment II, the DOH has budgeted \$50,000 to conduct planning for a 2016/2017 educational event during the month of March, which is Brain Injury Awareness month. The funding is necessary to contract with an organization that is familiar with developing an educational program for professional development in the area of neurotrauma as well as incorporating a strand of educational and awareness activities that support survivors of neurotrauma and their families. In addition to professional development and support to survivors and family members, this institute will be an opportunity to showcase the DOH's accomplishments through the use of the NSF as well as the accomplishments of its past and current contracted providers.

NEUROTRAUMA ADVISORY BOARD

Chapter 321H-3, HRS

VOTING MEMBERSHIP

TERM REPRESENTATION

VACANT

Neurotrauma Injury Survivor/Spinal
Cord Injury

Lyna Burian

Brain Injury Association of Hawaii

Angie Enoka

Neurotrauma Injury Survivor/Traumatic
Brain Injury

Elzy Kaina

STBIAB Member

VACANT

Private Sector

Doris Warner, R.N.
Queen's Trauma Center
Queen's Medical Center

Trauma Center

Ian Mattoch, Esq.

Private Sector

Milton Takara

At-Large

Scott Sagum

Stroke Survivor

Stella Wong
Vice President
Elderly Services Programs
Catholic Charities of Hawaii

At-Large

Valerie Yamada

At-Large

Attachment II

Projected Budget for the Neurotrauma Special Fund

FY 2016

Beginning Cash Balance as of 7/1/15	\$ 1,879,342
Estimated Revenues FY 2016	\$ 800,000
<u>FY 16 Estimated Expenses</u>	
Contract Encumbrances	
1. University of Hawaii – Manoa Concussion Management Project	\$ 251,798
2. University of Hawaii – Pacific Disabilities Center Neurotrauma Registry	\$ 246,943
3. Queen’s Medical Center Statewide Stroke Network	\$ 300,000
4. Hawaii Health Information Corporation- Purchase Neurotrauma Data	\$ 35,000
5. Web Design & Maintenance	\$ 7,500
6. Brain Injury Educational Event (Planning)	\$ 50,000
Education/Awareness Activities	\$ 50,730
Administrative Expenses	\$ 47,500
Personnel	\$ 180,000
Total Expenses	<u>\$ 1,169,471</u>
Estimated Ending Cash Balance as of 6/30/16	\$ 1,509,871

**[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 Hawaii;
- (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]