

HAWAII TRAUMA ADVISORY COUNCIL

State Trauma Program
Emergency Medical Services and Injury Prevention System Branch
Hawaii State Department of Health

Friday, February 7, 2020 9:00 AM – 3:00 PM

Pali Momi Medical Center
Diamond Head and Ewa Conference Room

98-1079 Moanalua Road Aiea, HI 96701

Webinar https://zoom.us/j/136722204 (669) 900-6833 Meeting ID: 136 722 204

MEETING MINUTES

Introductions
Dwight Kellicut MD, FACS
Chair, State of Hawaii Trauma Advisory Council (HTAC)
Trauma Medical Director, Tripler Army Medical Center and PACOM JTS
Director of Academics, Research, and Training
Program Director, General Surgery Residency

Meeting attendee

Meeting Minutes Approval

Meeting Minutes Approved

DOH EMSIPSB Report and ACT 140 Focus Group Tiffany Lightfoot MS, RN State of Hawaii DOH EMSIPSB State Trauma Program Coordinator

Presentation attached.

Focus Group comments regarding ACT 140:

Regulation & Policy

- Will need to define where EMTs can be the provider vs. paramedic
- need process to gather data and share it; re: alternate destination, insurance, cost number of txpts
- liability
- must be EMTALA compliant
- will have protocols to work off of before calling physician?
- need process to evaluate the facilities that want to participate i.e. criteria

Evaluation

- need platform to act as data collector, push to next providers at time of encounter
- protocols that are standardized
- field triage guidelines
- point of care type lab tests
- clear quality metrics and easy to access these data points for all stakeholders
- scope of practice for in place care EMS cred/priv protocols

Resource Management

- worried about development of compatibility between different systems
- for in place or follow up care, do we have adequate EMS

Human Resources & Education

- use of social workers for non-emergent calls to direct person to place of care
- need robust, mandatory education for EMS prior to starting alternated destination
 & other programs
- will need education for paramedics
- paramedics educated on response. Need education on chronic disease and social issues – case management, social service needs will need to be integrated
- more training for paramedics outreach care, mental health, community health
- attach social workers with paramedics paramedicine, home health? Input?
- training

Transportation

- subacute care transport alternate source instead of EMS
- define non-ambulatory choices to help mitigate transports in EMS units
- Will the rigs be spending more time in the field treating? What does this mean for getting them back to field ALS/other calls?
- need more clinic type resources to transport to
- must have clearly designated catchment areas
- allow vehicles other than ambulances to transport patients to alternate destinations

Communications

- the receiving facility must be able to receive and accept each and every transport
- EMS, EMR access for PT HX with treatment per paramedic
- need a communication network with a variety of final options for patients
- interagency information sharing must have
- how to design the Comm Net? start with alpha/beta testing
- follow up information sharing with trauma, EDs etc.

Medical Direction

- do nurse triage for calls & alternate destination decisions
- the transporting agency's medical director should be called for every nontraditional (non-ED) transport.
- video telemedicine must have
- centralized vs decentralized physician vs IVP
- strong, consistent medical director to oversee alternate destination authorization
- appropriate referral and f/up
- better screening and referrals for mental health
- alternative sites not just emergency room, safe place

Public Information & Injury Prevention

- referrals for elderly seen in ER and home from ER for fall + high fall risk
- public understanding treating w/o transport some expect to go that's why they call

Facilities

- facilities should not have to be 24-7
- qualifications for alternative destination
- expand billing & physical capacity of alternative destinations that take non-paying patients (i.e. HIS, salvation army, waikiki health etc.)
- criteria for alternative sites
- shelters, food & water places, bed, shower

Hawaii State Trauma Plan Completion

Michael Hayashi MD, FACS

Trauma Medical Director, The Queen's Medical Center

(see attached)

- 2020 Trauma System Plan Workgroups
- Eight initiatives
- Request to have a living document updated quarterly and yearly to present to the legislature
- Recommended that the State hire a PI coordinator and state registrar; at this time the state is lacking in resources to make this reality
- Request to send a list of who's in each workgroup to see where help is most needed

Working Lunch – State Trauma Plan Workgroup presentations

Hawaii State Trauma Data Presentation Dan Galanis, PhD State of Hawaii DOH EMSIPSB Epidemiologist

Emergency Medical Services for Children (EMSC)
Karin Ng
State of Hawaii DOH Disease Outbreak and Control Division
EMSC Program Manager

Sub-Council Reports

Disaster – Kimberly Webster, RN
Finance – Matt Wells, RN
Pediatric – Alissa Marchais, BSN, RN
Performance Improvement – Audra Roulet, RN
Trauma System Plan – Michael Hayashi, MD (see above)
Hawaii Society of Trauma Nurse Leaders – Louise Fincher, RN

Regional Trauma Advisory Council Reports
Kauai Trauma Advisory Council Report
Oahu Regional Trauma Advisory Council Report
Maui County Regional Trauma Advisory Council Report
Big Island Trauma Advisory Council Report

EMSAC Report – Libby Char, MD KIPC Report –Lisa Dau, RN IPAC Report – TBD

Meeting Adjourned at

Hawaii Trauma System Report

Tiffany Lightfoot RN, MS

Hawaii State Department of Health Emergency Medical Services and Injury Prevention System Branch

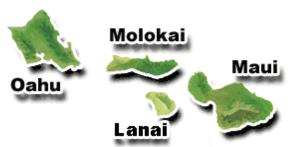
Pali Momi Medical Center





Hawaii Trauma System Continuum of Care





- Injury Prevention
- EMS
- Trauma Centers and hospitals
- Rehabilitation





Fall Prevention







Traffic Safety









Drowning Prevention

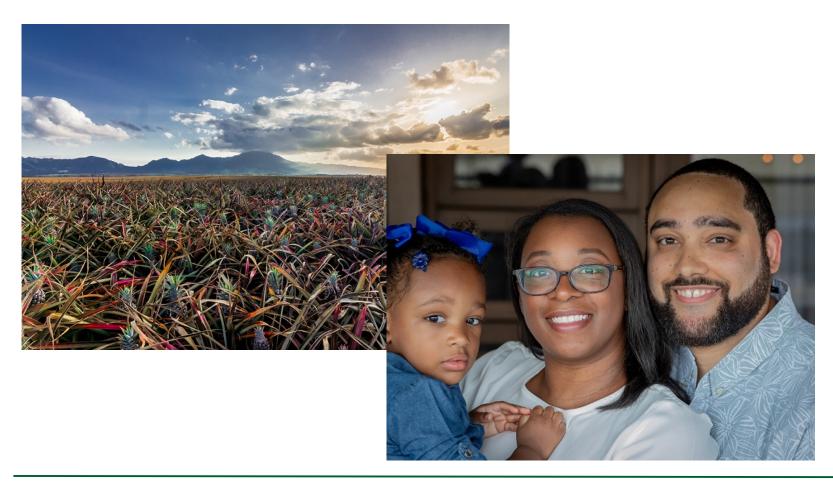


DOH Emergency Medical Services and Injury Prevention System Branch Hawaii Trauma Advisory Council





CORE SVIPP



DOH Emergency Medical Services and Injury Prevention System Branch Hawaii Trauma Advisory Council

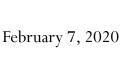




Suicide Prevention



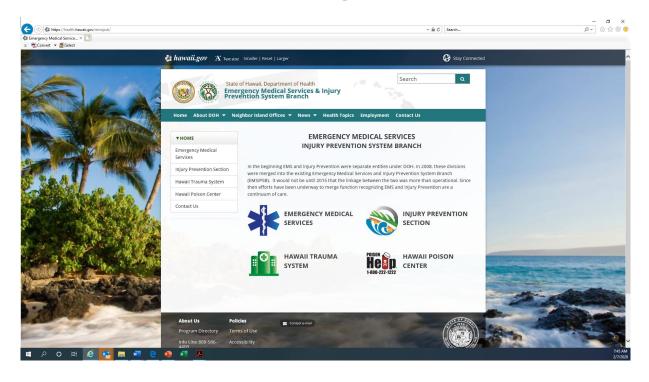
Oahu **808-832-3100** Islands of Kauai, Lanai, Molokai, Maui & Hawaii **800-753-6879**







Hawaii Trauma System Website



https://health.hawaii.gov/emsipsb/

Update

- DOH Administrative Rules
 - Trauma Center Designation
 - Draft completed
 - 5/15/20 HTAC public comment
 - Trauma System Special Fund Distribution
 - Draft rules after Trauma Center Designation
 - ACT 140 Administrative Rules
 - Stakeholder group meetings started
 - Drafting rules for EMS treat and no transport, transport to alternate destinations, and community paramedicine





Update

- FY 21 Trauma System Special Fund contract scope of work
 - EMSC performance measures
 - Include data from all hospitals
 - Clarify injury prevention activity expectations
 - Measurable performance goals
 - Evaluating insurance requirements



NHTSA Recommendations

- Opportunities
 - Trauma
 - Continue with 2017 ACS recommendations
 - Establish single trauma center standard (ACS)
 - Designate Level 4 trauma centers
 - Publish an annual report
 - Automate EMS/trauma data linkage
 - Publish quality metrics
 - Publish clinical management guidelines (e.g., head injury)



2020 HTAC Meetings

09:00 AM - 3:00 PM

- Friday, February 7 Thank you Pali Momi
- Friday, May 15
- Thursday, August 13
 - Trauma Symposium August 14 and 15
- Friday, November 6





Mahalo and Questions



ACT 140

Alvin C. Bronstein MD, FACEP
Tiffany Lightfoot RN, MS

Hawaii State Department of Health
Emergency Medical Services and Injury Prevention System Branch





Hawaii EMS Legislation

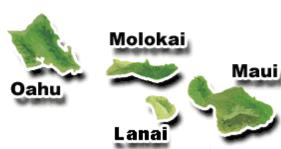
- HB 1453
- ACT 140 (19)





ACT 140 (19)





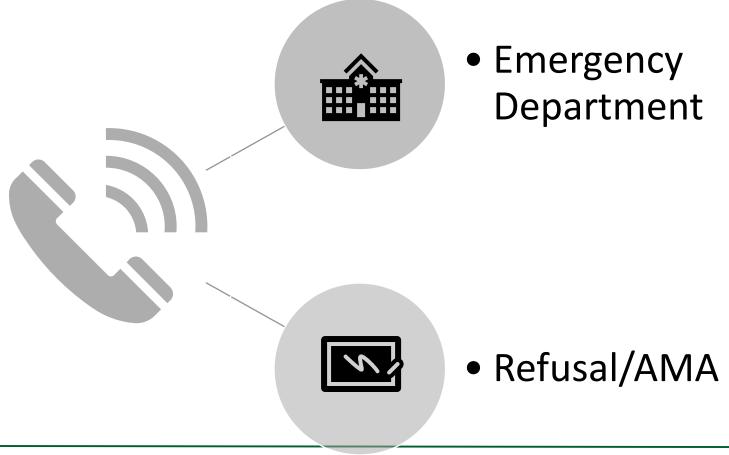
- Alternative Destination
- Treatment without Transport
- Community Paramedicine





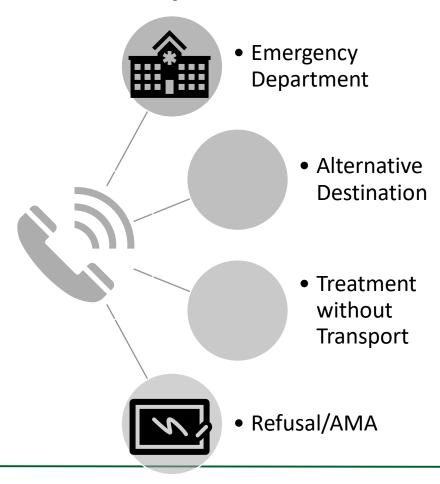


Current EMS System



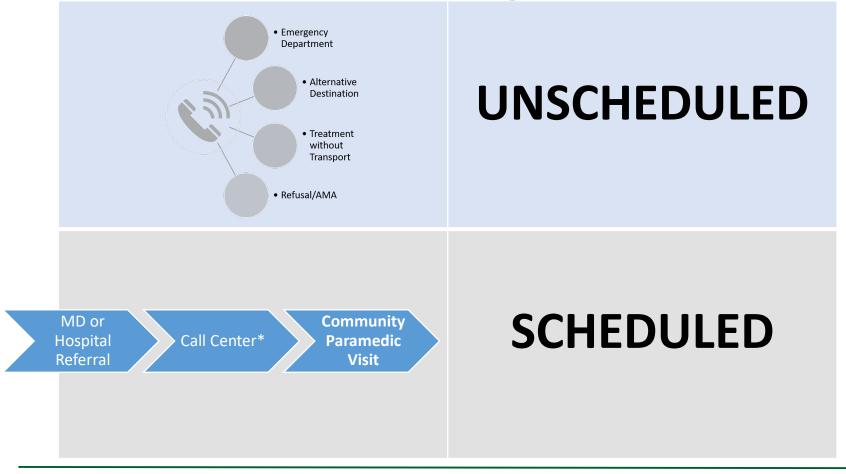


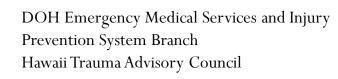
Future EMS System





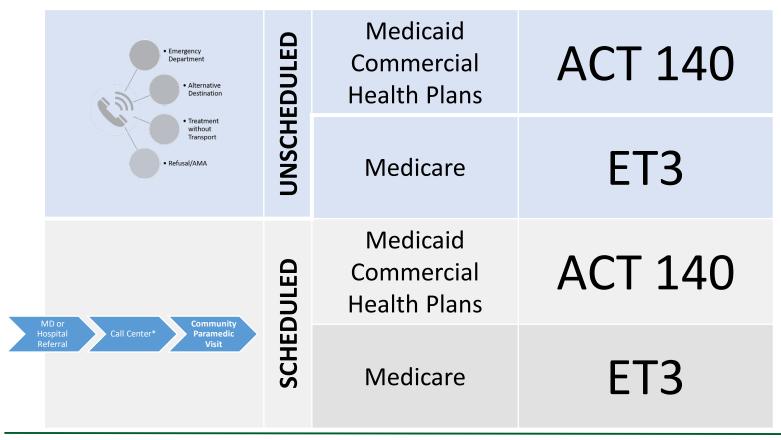
Future future EMS System







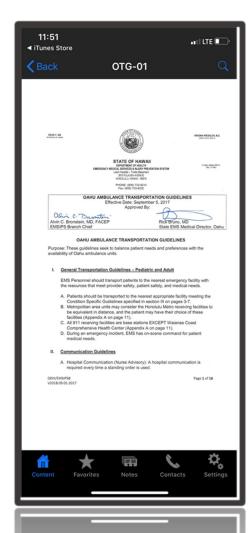
Regulation and Funding





Looking Forward

- Interim admin rules July 1, 2020
- Stakeholders meetings
- Public/private partnerships





Building the System

- Regulation and Policy
- Revenue
- Resource Management
- Human Resources and Education
- Transportation
- Facilities
- Communications
- Public Information and Injury Prevention
- Medical Direction
- Evaluation



Your Input

- What do you WANT the system to do?
- What do you NOT WANT the system to do?

System = alternative destination, treatment without transport, community paramedicine



Mahalo





2020 Trauma System Plan Workgroups

Exclude the following items for workgroup assignment

For All of HTAC: #4, 9, 17

For DOH:

#6, 7, 8, 11, 12, 15,

Completed:

#16

Workgroups for today:

#1 Lead:

(1) Produce an annual Trauma System report that includes data from the pre-hospital setting, trauma registry, vital records and hospital discharge data

#2 Lead:

(2) Develop and implement rules governing the Trauma System, including but not limited to:

Structure, governance, and reporting structure of the HTAC

Periodic review and update of the trauma plan

Process for determining priorities in distribution of trauma funds to support state-wide Trauma System development and sustainability

Field triage and ambulance destination

Designation of trauma centers based on need

(5) Restructure HTAC as a formalized advisory committee to the DOH EMSIPSB (EMSAC may serve as a model for drafting this section)

#3 Lead:

(3) Create a broadly representative sub-council of the HTAC that will work in an advisory capacity with the Emergency Medical Services Injury Prevention Systems Branch to review all statutes and regulations pertaining to trauma with a focus on updating, developing, and/or revising sections needing attention

#4 Lead:

(10) Explore creative options, including tele-medicine and other technologies, to provide consultation, follow-up care, and rehabilitation to enable more patients to remain on their home island

#5 Lead:

(13) Involve the tourism/ hospitality industry in prevention initiatives

#6 Lead:

(18) Conduct an assessment of the Trauma System's ability to expand its capacity to respond to MCIs in an all-hazards approach

#7 Lead:

(19) Create a Trauma System PI Master Plan, guided by HTAC in its advisory role

#8 Lead:

(20) Reactivate Trauma research efforts utilizing Trauma registry and Population-based resources.

Hawaii Trauma Registry Data Report

Dan Galanis, Ph.D.
Epidemiologist
Injury Prevention and Control Section
EMS & Injury Prevention System Branch
Hawaii Department of Health

Ph: 733-9236

E-mail: daniel.galanis@doh.hawaii.gov

Overview of presentation

- Patient volume
 - By NTR status and facility level

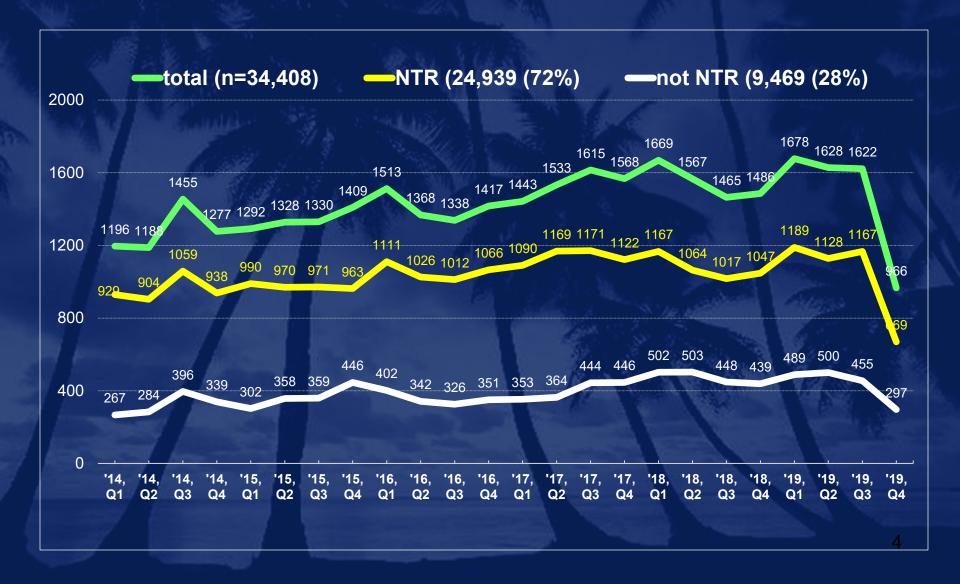
Injury Severity Score

Mechanism of injury

Disposition of patients transferred from Level IIIs

Patient volume

Quarterly number of charts in Hawaii Trauma Registry, by NTR Inclusion criteria, 2014 – 2019

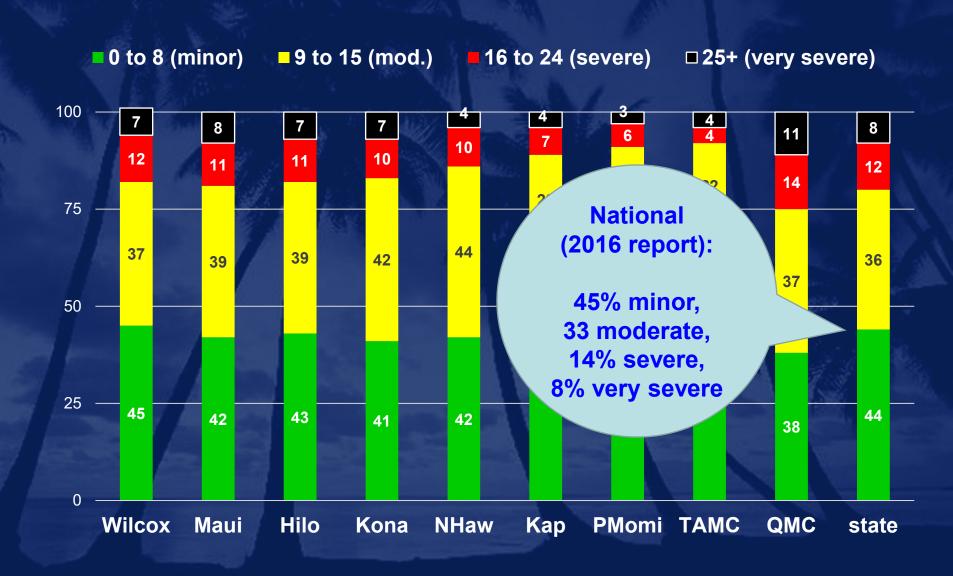


Quarterly number of charts in HTR meeting NTR inclusion criteria, by level of facility, 2014 – 2019



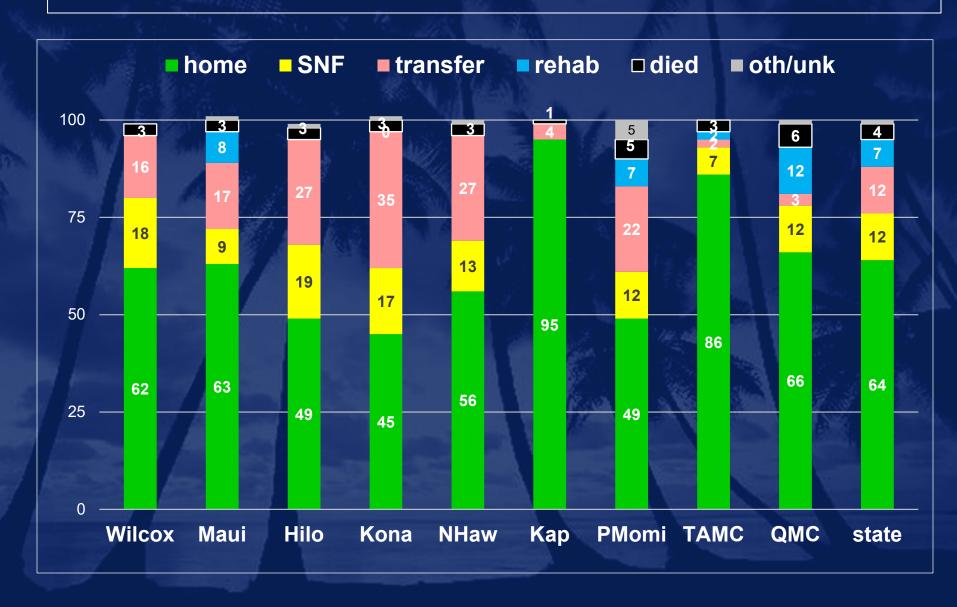
Injury Severity Score (ISS)

Distribution (percent) of ISS category for HTR records meeting NTR inclusion criteria, by facility, 2017 - 2019



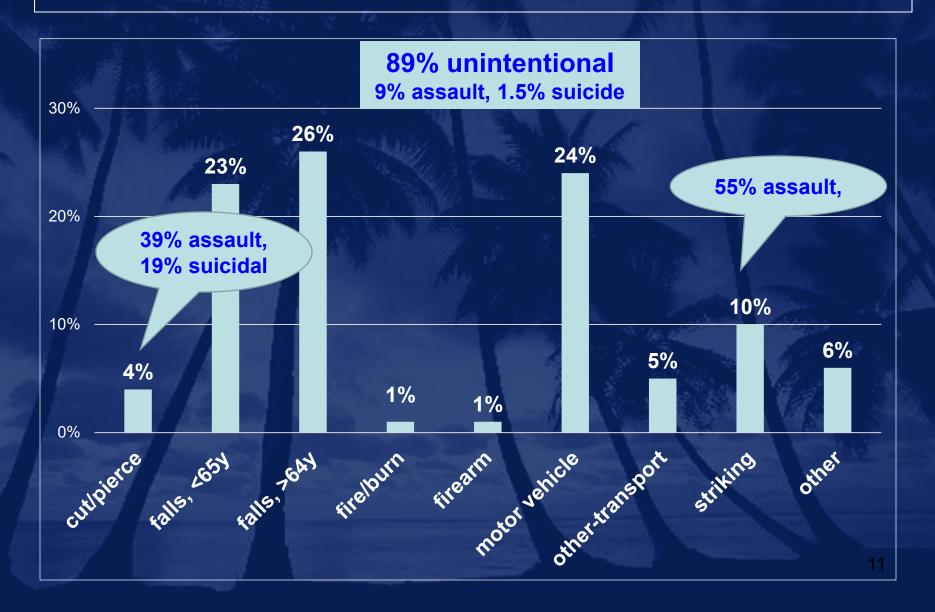
Fatalities/patient disposition

Distribution (percent) of patient disposition for HTR records meeting NTR inclusion criteria, by facility, 2017 - 2019

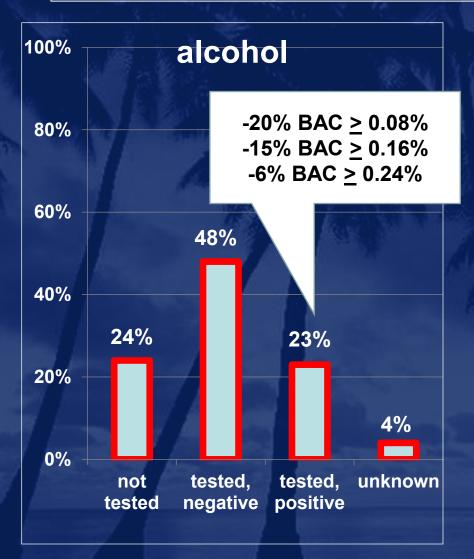


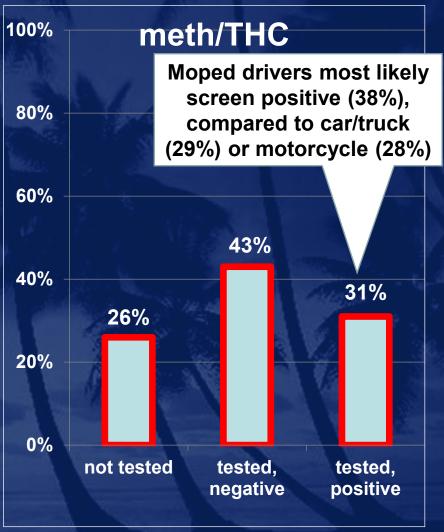


Distribution (percent) of mechanism of injury, for records meeting NTR inclusion criteria, 2017 - 9/2019 (n=11,072)



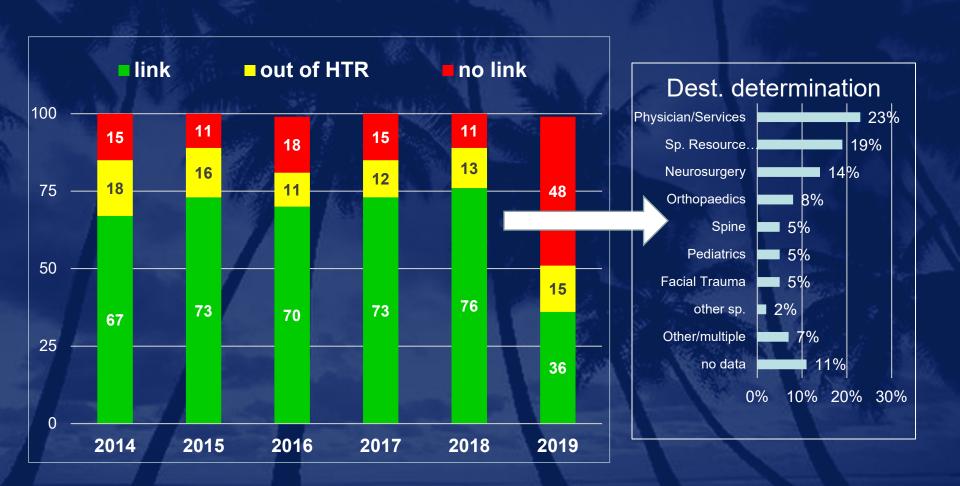
Toxicology status of drivers injured in motor vehicle traffic crashes, HTR data, 2017 - 2018 (n=1,279)



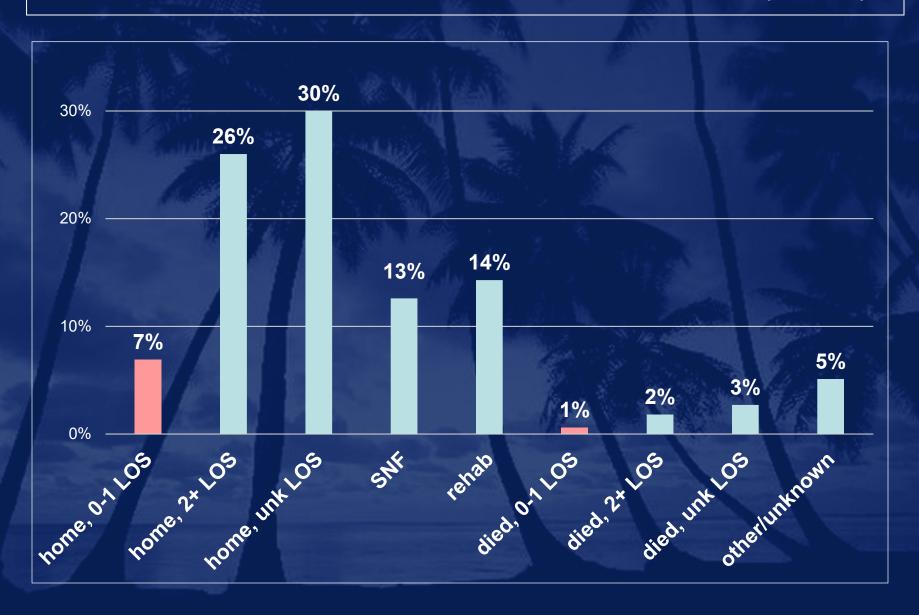


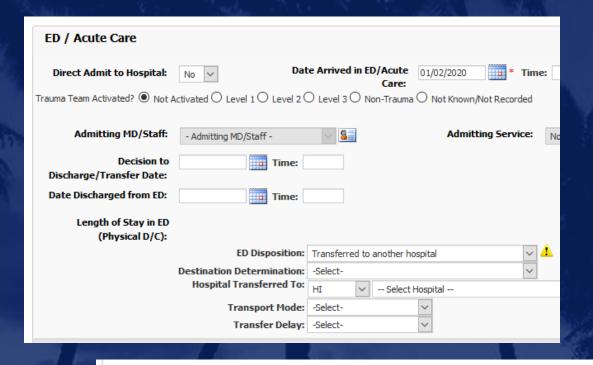
Outcomes of transferred patients

Patients transferred from Level IIIs (n=2,429): Linkage status to HTR definitive record, 2014 – 9/2019



Final disposition for patients transferred from Level IIIs, linked to HTR definitive care record, 2014 - 9/2019 (n=1,621)



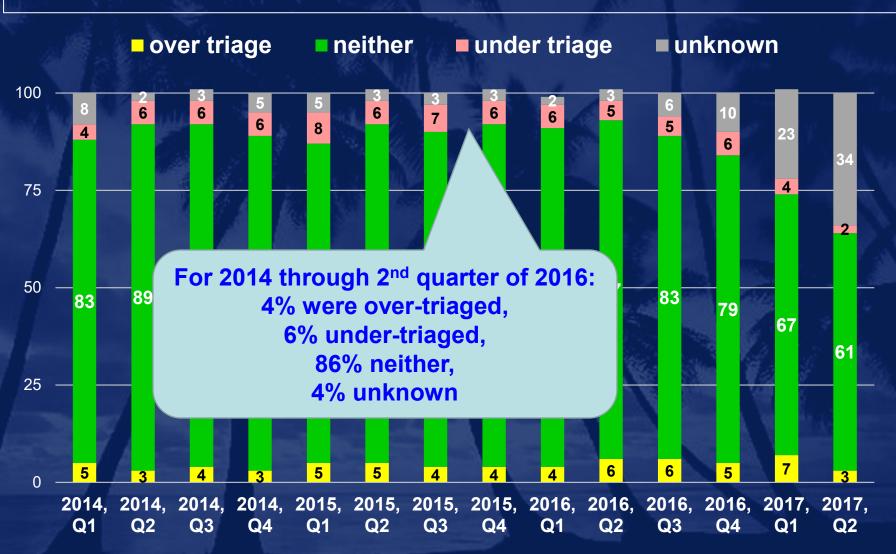




Patient triage status

Distribution (percent) of triage status for Level III patients, by quarter, 2014-6/2017

(Includes charts not meeting NTDB inclusion criteria.)





Future Possible Benchmarks

- Over- and under-triage
 - LOS, and +/- surgery
- Timeliness of re-triage process
- Patients discharged with short LOS (<24 hours or < 2 days) from transfer</p>
- Patients died within 24 hours from transfer
- Declined transfer (remained at sending facility or transferred to non-trauma center)
- Transfer for subspecialty care
- Appropriate transfers/adherence:
 - 1) head injury guidelines 2) pediatric guidelines 3) ACS criteria for transfer 20

EMSAC Highlights January 22, 2020

- 1. Pediatric Airway presentation by Drs. Micky Sofer and Sid Johnson
 - a. Proficiency at pediatric intubation related to 10 intubations per year, which is not feasible in EMS
 - b. Should we add supraglottic airways for pre-hospital use? If so, how would that be reflected in the agency protocols and standing orders
 - c. This will probably be discussed further as State Standing orders are revised for 2020
- 2. EMSAC Membership
 - vacancies for Hawaii consumer, Kauai Allied health and one physician position (if you know of people who have an interest in EMS, please encourage them to apply online
- 3. EMSAC Orientation
 - a. Discussed legal obligations (statute) for EMSAC members
 - b. Discussed Sunshine Law and rules for EMSAC members
- 4. State Standing orders due for updates this year.
- 5. NHTSA recommendations
 - a. Final report is out and state EMS branch / Dept. of Health has selected 6 initial priorities:
 - i. EMS Workforce study
 - ii. EMS system cost analysis
 - iii. Inclusion of data on all EMS class, including fixed wing air transports, ground interfacility transports and ground 911 ambulance calls.
 - iv. License all qualified first responders that treat patients
 - v. Make Prehospital care licensure independent from employment
 - vi. Hire an EMS Data manager
- 6. DOH reports
 - No legislative initiatives are being proposed by the branch, pertaining to EMS
 - b. A discussion was to follow the meeting regarding Act 140 (HB1453) from 2019
- 7. Education: conversation about seeking to lower the age for NREMT certification to 16 years, so that high school EMT training programs can be explored.

Next Meeting Wednesday, April 15



2020 KIPC/Safe Kids Meetings

2:00 p.m. – 3:30 p.m. Kapi'olani Medical Center Diamond Head Tower

March 13, Conference Rooms 6&7
June 26, Conference Rooms 6&7
September 18, Conference Rooms 2&3
December 4, Conference Rooms 6&7

For our partners who are unable to make it in person and would like to call in using the Bridgeline the number is 808-485-4471.

Please considering carpooling!





EMERGENCY MEDICAL SERVICES FOR CHILDREN (EMSC) UPDATES

FEBRUARY 7TH, 2020 SARAH Y. PARK, MD, FAAP, EMSC PROGRAM DIRECTOR ALVIN C. BRONSTEIN, MD, FACEP, EMSC PROGRAM CO-DIRECTOR KARIN NG, EMSC PROGRAM MANAGER





EMSC UPDATES

- EMSC Advisory Committee
 - Robin Baylosis has been elected chair
 - Next meeting will be held in April
- Carryover Budget
 - Restraints have been distributed to EMS agencies
 - Training and Webinars are being secured through JABSOM and KCC
 - Dosing software has been posted for bidding

PM SURVEYS

- The EMS Performance Measure Survey (PMs 2 & 3) is taken annually
 - The survey was distributed to all EMS agencies at the beginning of this year
 - The survey closes on March 31st
- The Peds Ready Performance Measure Survey (PMs 6 & 7) will occur this summer



PERFORMANCE MEASURE 2 – PECC

- Pediatric Emergency Care Coordinators (PECCs) may result in ensuring that the agency and its providers are more prepared to care for ill and injured children
- PM 2 states that by 2020, 30 percent of EMS agencies in the state have a designated PECC
- All 6 EMS agencies in Hawaii must establish at least one PECC
- The committee has established requirements for the PECC role

PECC REQUIREMENTS

- Each EMS agency shall designate at least one individual who coordinates pediatric emergency care, also known as the Pediatric Emergency Care Coordinator (PECC).
 - a. Each county must have at least one PECC.
- This individual need not be dedicated solely to this role and could be personnel already in place with a special interest in children who assumes this role as part of their existing duties.
- The PECC shall advocate for improved competencies and the availability of resources for pediatric patients.
- The PECC should be a member of the EMS agency and be familiar with the day-to-day operations and needs at the agency.
- 5. Roles that the PECC might oversee at an EMS agency include, but are not limited to:
 - a. Ensuring that the pediatric perspective is included in the development of EMS protocols.
 - b. Ensuring that fellow providers follow pediatric clinical practice guidelines.
 - c. Promoting pediatric continuing-education opportunities.
 - d. Overseeing pediatric-process improvement.
 - e. Ensuring the availability of pediatric medications, equipment, and supplies.
 - f. Promoting agency participation in pediatric-prevention programs.
 - g. Promoting agency participation in pediatric-research efforts.
 - h. Liaises with the emergency department pediatric emergency care coordinator.
 - i. Promoting family-centered care at the agency.

MAHALO

Questions?



HTAC Pediatric Sub Council:

Chair: Devin Puapong

Last met on 1/22/2020, 10/30/2019

Protocol Development

- 1. Recommendation for Cuffed pediatric ETT in EDs and EMS pediatric rescue airways well received at EMSAC, recommendation is also in alignment with National Association of State EMS West region, no objections at National Highway Trauma Safety Assessment of our EMS system
 - a. Next steps working with state to help with EMS SGA training
 - b. Messaging out cuffed pediatric ETT for ED's across the state
 - i. This has been disseminated through HTAC as well as through TPM group;
 - ii. Pediatric Readiness survey opening up in June and requesting action item to move to cuffed ETT
 - iii. Feedback from Dr. Bronstein's presentation at ACEP meeting
- 2. Feedback/concerns regarding previously presented pediatric imaging guidelines
- 3. Feedback/concerns regarding previously presented early activation of aeromedical services guidelines
- 4. Pediatric Neurosurgical coverage remains challenging, and Queen's neurosurgeon was in attendance at 10/30/2019 subcommittee meeting. Kapi'olani and TAMC have continued to attempt to fill neurosurgical gaps. Both Queens and Kapi'olani continue to collaborate and participate in strategies to address this need.
- 5. With expanded neurosurg coverage at KMCWC, peds subcommittee explored idea of having KMCWC neurosurg call schedule available to EMS dispatch; Group consensus was not to make any system process changes at this time
- 6. Solid Organ Injury Guideline update

Performance Improvement

7. Pediatric trauma quality case reviews continue while ECHO platform is operationalized



CREATING A HEALTHIER HAWAI'I

ISOLATED LIVER/SPLEEN INJURY ALGORITHM

ADMISSION

ICU admission if abnormal vital signs after initial volume resuscitation

If admitted to ICU:

Activity – bedrest until vitals normal

Labs – CBC q6hour until vitals normal

Diet – NPO until vital signs normal and hemoglobin stable

If admitted to Floor:

Activity – no restrictions

Labs – CBC on admission and/or 6 hours after injury

Diet – Regular diet

PROCEDURES

Transfusion if:

Unstable vital signs after 20 cc/kg bolus of isotonic IVF

Hemoglobin < 7

Signs of ongoing or recent bleeding

Consider angioembolization if:

Signs of ongoing bleeding despite pRBC transfusion

*Not indicated for contrast blush on admission CT without unstable vitals

Consider operative exploration if:

Unstable vital signs despite pRBC transfusion

*Consider massive transfusion protocol

DISCHARGE

Tolerating a diet

Minimal abdominal pain

Normal vital signs

* Based on clinical condition NOT grade of injury



AFTERCARE

Activity Restriction

Restricting activity to grade plus 2 weeks is safe

Shorter restrictions may be safe, but there is inadequate data to support at this time

Follow up imaging

Consider imaging for symptomatic patients with prior high grade injuries

*Risk of delayed complications following spleen and liver injuries is low

REFERENCES:

Acker et al. Lack of utility of repeat monitoring of hemoglobin and hematocrit following blunt solid organ injury in children. J Trauma Acute Care Surg 2015. 79 (6): 991-994.

Gates et al. Non-operative management of solid organ injuries in children: An American Pediatric Surgical Association Outcomes and Evidence Based Practice Committee systematic review. J Pediatr Surg. 2019 Jan 31. Epub

Golden et al. Admission hematocrit predicts the need for transfusion secondary to hemorrhage in pediatric blunt trauma patients. J Trauma Acute Care Surg 2015. 79 (4):555-562.

Ingram et al. Hepatic and splenic blush on computed tomography in children following blunt abdominal trauma: Is intervention necessary? J Trauma Acute Care 2016. Surg 81 (2):266-270.

Notrica et al. Nonoperative management of blunt liver and spleen injury in children: Evaluation of the ATOMAC guideline using GRADE. J Trauma Acute Care Surg 2015. 79 (4): 683-693

St Peter SD et al. Follow up of prospective evaluation of bedrest protocol in the management of blunt spleen and liver injury in children. Journal of Pediatric Surgery (2013) 48, 2437–2441.



Pediatric Trauma Imaging Guidelines for Head CT

Online calculator: https://www.mdcalc.com/pecarn-pediatric-head-injury-trauma-algorithm

Head CT is not indicated unless one or more of these criteria is met

Age < 2	Age <u>></u> 2
Altered mental status*	Altered mental status*
Palpable skull fracture*	Signs of basilar skull fracture*
Scalp hematoma other than frontal	Vomiting
Loss of consciousness > 5 seconds	Loss of consciousness
Severe mechanism of injury**	Severe mechanism of injury**
Not acting normally according to family	Severe headache

* CT is indicated with any one of these findings (approximately 4% risk of clinically significant TBI)

- ** Severe mechanism of injury:
 - Auto vs. Peds
 - Fall > 3 ft for age < 2 or Fall > 6 ft for age > 2
 - head struck by high impact object

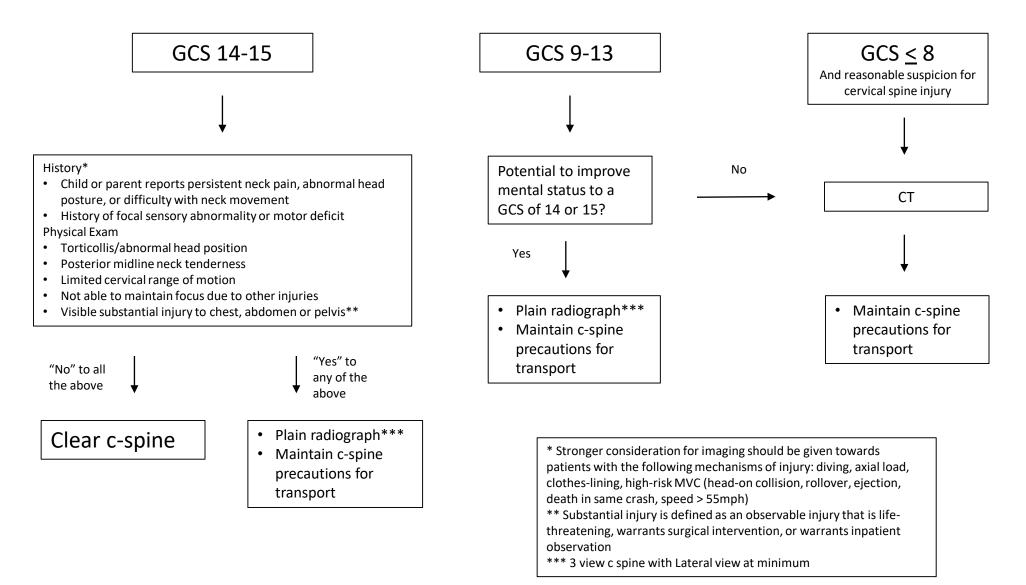
Observation versus CT for one or more of these findings (approximately 1% risk of clinically significant TBI)

- MD experience
- Multi vs isolated findings
- Worsening symptoms
- Parental preference

References: Pediatric Emergency Care Applied Research Network (PECARN). Identification of children at very low risk of clinically-important brain injuries after head trauma: a prospective cohort study. Lancet. 2009 Oct 3;374(9696):1160-70



ediatric Cervical Spine Clearance Algorithm for Referring Hospitals





Pediatric Trauma Imaging Guidelines for Chest CT

- Obtain CXR
- Chest CT with contrast if there is widened mediastinum.

OR

Vehicle related mechanism with positive CXR finding

References:

Does the incidence of thoracic aortic injury warrant the routine use of chest computed tomography in children? J Trauma Acute Care Surg. 2019 Jan;86(1):97-100

Limiting chest computed tomography in the evaluation of pediatric thoracic trauma. J Trauma Acute Care Surg. 2016 Aug;81(2):271-7.

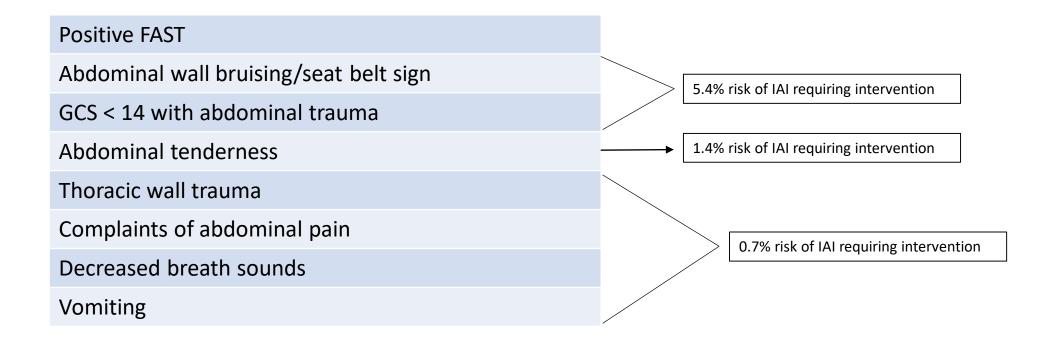
Chest computed tomography imaging for blunt pediatric trauma: not worth the radiation risk. J Surg Res. 2013 Sep;184(1):352-7.

Chest x-ray as a screening tool for blunt thoracic trauma in children. J Trauma Acute Care Surg. 2013 Oct;75(4):613-9.



Pediatric Trauma Imaging Guidelines for Abdomen and Pelvis CT

Abdominal CT is not indicated unless one or more of these criteria is met



References: Pediatric Emergency Care Applied Research Network (PECARN). Identifying children at very low risk of clinically important blunt abdominal injuries. Ann Emerg Med. 2013 Aug;62(2):107-116



Guideline for Early Activation of Transport for Pediatric Trauma in Hawaii

Introduction:

Transport of pediatric trauma patients may be delayed if notification to transport entities waits until resuscitation and work up is completed. This trend is highlighted in geographically isolated areas such as Hawai'i where the highest level trauma centers are only accessible via air transport from many intake hospitals.

Purpose:

This guideline serves to help expedite the transfer of critically injured children from neighbor island hospitals to an appropriate trauma center on O'ahu.

Application:

This guideline shall apply to pediatric (<15 years of age) trauma patients who have their initial evaluation done at a neighbor island hospital

Procedure:

With the understanding that this process utilizes important resources and may divert these resources away from sicker patients if applied inappropriately, Early Activation of Transport (EAT) may be considered by referring hospital after initial evaluation if any of the following criteria are met:

- 1. Patient meets criteria for highest level of activation
- 2. Patient care needs clearly exceed capabilities of referring hospital and patient's clinical status is unstable

The referring hospital will call air transport entities informing them that they are initiating EAT. The referring hospital will be given estimated times of availability and decide on the air transport entity that will be utilized. A transport team from that entity will be dispatched to referring hospital at that time.

Concomitant resuscitation and work up of the patient will be done and once appropriate resuscitation, lab studies and imaging studies are obtained, the referring hospital will contact the Queens Transfer Call Center to implement the current 3-way triage system for pediatric trauma patients.

The referring hospital will remain responsible for the care and management of the patient until the patient's departure from that facility.

Reporting:

Data reflecting timeliness of transport for pediatric trauma patients will continue to be collected and reviewed to monitor the effectiveness of EAT.