SB 168

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 3/27/09

FURTHER: Finance

Date of 5-Day Notice: Feb 18, 2010
(in accordance with Uniform Rule 23)

DATE TURNED IN TO OFFICE: February 23

Health and Social Services Committee considered SENATE BILL NO. 168

SB 168 TRAUMA CARE CENTERS/FUND

"An Act relating to state certification and designation of trauma centers; creating the uncompensated trauma care fund to offset uncompensated trauma care provided at certified and designated trauma centers; and providing for an effective date."

and recommends:

[ ] be **replaced** with [ ] **SCS** or [X] **CS** SB168 (HSS)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[ ] Same Title
[ ] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
REV	2/8/10			✓	1
Health	2/8/10			✓	2
HSS	2/10/10	✓			3

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
	ELLIS			X	
	Thomas	✓			
	PASKVAN			X	
	Dyson	✓			
CHAIR:	DAVIS	✓			

4605

26-LS0799\R
Mischel
2/17/10

CS FOR SENATE BILL NO. 168(HSS)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - SECOND SESSION

BY THE SENATE HEALTH AND SOCIAL SERVICES COMMITTEE

Offered:
Referred:

Sponsor(s): SENATE HEALTH AND SOCIAL SERVICES COMMITTEE BY REQUEST

A BILL

FOR AN ACT ENTITLED

"An Act relating to state certification and designation of trauma centers; creating the uncompensated trauma care fund to offset uncompensated trauma care provided at certified and designated trauma centers and including a portion of the tax levy on alcohol as a source of money that may be appropriated to the trauma care fund; and providing for an effective date."

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

*** Section 1.** AS 18.08.082 is amended by adding a new subsection to read:

(c) The commissioner shall establish special designations in regulation for varying levels of trauma care provided by a certified trauma center that shall be used to set compensation eligibility and amounts under AS 18.08.085. The designations shall be based on nationally recognized standards and procedures.

*** Sec. 2.** AS 18.08 is amended by adding a new section to read:

Sec. 18.08.085. Uncompensated trauma care fund; creation. (a) The

uncompensated trauma care fund is created. The purpose of the fund is to compensate certified trauma centers in the state that receive a special designation under AS 18.08.082(c) for care uncompensated by the person receiving the care or by any other source.

(b) The fund consists of money appropriated to it by the legislature, including donations, recoveries of or reimbursements for awards made from the fund, income from the fund, and other program receipts from activities under this chapter. Appropriations to the fund do not lapse.

(c) The commissioner shall administer the fund in accordance with the provisions of this chapter. The commissioner shall spend money from the uncompensated trauma care fund for the purpose established in (a) of this section. The commissioner may establish and seek the advice of a special committee for review of statewide trauma care and compensation standards.

(d) The commissioner may not provide more than 25 percent of the total assets, including earnings, of the fund in a fiscal year to one trauma center.

* **Sec. 3.** AS 43.60 is amended by adding a new section to read:

Sec. 43.60.055. Disposition of proceeds; availability for appropriation to the uncompensated trauma care fund. The portion of the tax collected under AS 43.60.010 that is not separately accounted for under AS 43.60.050(a) may be appropriated to the uncompensated trauma care fund (AS 18.08.085). Nothing in this section creates a dedicated fund.

* **Sec. 4.** This Act takes effect immediately under AS 01.10.070(c).

26-LS0437\R.3
Bullock
2/16/10

AMENDMENT

OFFERED IN THE HOUSE BY REPRESENTATIVE HERRON

TO: HB 168

Page 1, line 3, following "**centers**":

Insert "**and including a portion of the tax levy on alcohol as a source of money that may be appropriated to the trauma care fund**"

Page 2, following line 12:

Insert a new bill section to read:

"*** Sec. 3.** AS 43.60 is amended by adding a new section to read:

Sec. 43.60.055. Disposition of proceeds; availability for appropriation to the uncompensated trauma care fund. The portion of the tax collected under AS 43.60.010 that is not separately accounted for under AS 43.60.050(a) may be appropriated to the uncompensated trauma care fund (AS 18.08.085). Nothing in this section creates a dedicated fund."

Renumber the following bill section accordingly.

4608

Alaska State Legislature

Senate Health & Social Services Committee
Senator Bettye Davis, Chair

Senate Bill 168 – Sponsored by Senate Health & Social Services Committee

"An Act relating to state certification and designation of trauma centers; creating the uncompensated trauma care fund to offset uncompensated trauma care provided at certified and designated trauma centers; and providing for an effective date."

Sponsor Statement

SB 168 addresses the urgent need for a comprehensive state-wide trauma center system coordinating and integrating the efforts of Emergency Medical Services (EMS), public safety agencies, air medial services, and health care facilities to ensure that patients receive the most efficient, effective care possible from time of injury through rehabilitation. Trauma care systems have been shown to reduce death from injury by as much as 25 percent and are recognized as an integral part of a state's EMS and disaster response system. Only eight states reportedly have fully functioning systems and 15 states have no system.

Trauma is any life-threatening occurrence, either accidental or intentional, that causes injuries. The leading causes of trauma are motor vehicle accidents, falls, and assaults. Trauma is the leading cause of death among Americans under 44 years of age. A trauma center is a hospital, clinic, or other certified entity equipped to provide comprehensive emergency medical services to patients suffering traumatic injuries. Trauma centers were established by the medical establishment in response to traumatic injuries that often require complex and multi-disciplinary treatment including surgery, in order to give the victim the best possible chance for survival and recovery.

SB 168, Section 1, adds subsection (c) to AS 18.08.082, Emergency Medical Services, to address the state certification and designation of trauma centers; it creates the "Uncompensated Trauma Care Fund" under Section 2, AS 18.08.085, to offset uncompensated trauma care provided at certified and designated trauma centers; and it provides for an immediate effective date. The bill requires the commissioner to establish special designations in regulation of Levels I-IV of certified trauma centers that shall be used to set compensation eligibility and amounts under the Uncompensated Trauma Care Fund.

Although the current Alaska statutes revised in 1993 require certification of hospitals, clinics, or other entities represented as trauma centers, the statutes do not require or provide incentives for participation. The Uncompensated Trauma Care Fund will provide the needed incentive for hospitals, clinics, and other entities to seek certification as trauma centers. Since the state statutes and regulations in this area were enacted over 15 years ago only three of 24 eligible Alaska hospitals reportedly have successfully completed the verification and certification process as trauma centers.

In order to qualify as a trauma center, a hospital must meet certain criteria as established by the American College of Surgeons. Trauma centers vary in their specific capabilities and are identified by "Level" designation: Level-I being the highest, to Level-IV being the lowest. Higher levels of trauma centers will have trauma surgeons available, including those trained in such specialties as neurosurgery and orthopedic surgery as well as highly sophisticated medical diagnostic equipment and specialized treatment units. Lower levels of trauma centers may only be able to provide initial care and stabilization of a traumatic injury and arrange for transfer of the victim to a higher level of trauma care.

Under the Alaska trauma center system, it is anticipated that tertiary hospitals designated as higher level trauma centers will ensure availability of critical care specialists 24 hours a day, seven days a week. The Alaska Native Medical Center is a Level II trauma center, Yukon Kuskokwim Regional and Norton Sound Regional Hospitals are Level IV. It is believed that there are adequate medical resources to establish more Level II trauma centers in Anchorage, and it is considered feasible to establish level III and IV centers throughout the state. Because of long transport times, trauma centers at all levels are necessary to improve patient outcomes. Level I trauma centers have critical care specialists in the hospital or on call at all times. The closest Level I trauma center is Harborview Medical Center in Seattle.

The operation of a trauma center is extremely expensive. Some areas are under-served by trauma centers because of this expense. For example, Harborview Medical Center in Seattle is the only Level I trauma center to serve the entire states of Washington, Idaho, Montana, and Alaska. In Florida, Orlando Regional Medical Center, reportedly built to serve five counties, now serves more than twenty.

Patient traffic at trauma centers can vary widely, as there is no way to schedule the need for emergency services. A variety of different methods have been developed for dealing with this. Halifax Health in Daytona Beach, Florida reportedly is deploying a "pod system," allowing trauma care to be provided by several different small emergency departments at different hospitals, rather than at one central large trauma center. It is anticipated that Alaska, likewise, will have to develop a trauma center system which best suits its needs. It is anticipated that persons critically injured in remote areas of Alaska will be transported directly to a distant trauma center by plane and helicopter for faster and better medical care than if they had been transported to a closer hospital or clinic which is not a designated trauma center. The designation, coordination, and funding of a trauma center system in Alaska as provided by SB 168 will save time and lives. SB 168 will also provide the financial incentives for more participation by hospitals, clinics and other certified trauma care entities which are not available under present law.

lature's intent regarding how the money appropriated is to be spent; (2) must not administer the program of expenditures; (3) must not enact law or amend existing law; (4) must not extend beyond the life of the appropriation; and (5) must contain language that is germane, or appropriate, to an appropriations bill. Alaska Legislative Council v. Knowles, 21 P.3d 367 (Alaska 2001).

Sec. 24.08.035. Fiscal notes on bills. (a) Before a bill or resolution, except an appropriation bill, is reported from the committee of first referral, there shall be attached to the bill a fiscal note containing an estimate of the amount of the appropriation increase or decrease that would result from enactment of the bill for the current fiscal year and five succeeding fiscal years or, if the bill has no fiscal impact, a statement to that effect shall be attached. The fiscal note or statement shall be prepared in conformity with the requirements of this section by the department or departments affected and may be reviewed by the office of management and budget. The fiscal note or statement shall be delivered to the committee requesting it within three days of the request. If the bill is presented by the governor for introduction in accordance with AS 24.08.060(b) and the uniform rules of the legislature, the fiscal note or statement shall be attached to the bill before the bill is introduced. An amendment or a substitute bill proposed by a committee of referral that changes the fiscal impact of a bill shall be explained in a revised fiscal note or statement attached to the bill.

(b) In addition to the fiscal note required by this section, the sponsor of a bill or resolution may prepare a fiscal note in conformity with the requirements of this section and submit it to the committee of first referral or the finance committee. A committee may prepare an additional fiscal note in conformity with the requirements of this section.

(c) A fiscal note for a bill or resolution must contain the following information:

(1) the fiscal impact on existing programs;

(2) the fiscal impact of new programs or activities;

(3) a line item detail of the fiscal impact;

(4) the source of funds expected to be utilized by general fund source, federal fund source, or other identified source;

(5) the number of new positions that may be required, identified as full-time, part-time, or temporary;

(6) an analysis of how the figures in the fiscal note were derived;

(7) additional information necessary to explain the fiscal note;

(8) a fiscal impact projection for the current fiscal year and for the succeeding five fiscal years; and

(9) formal information consisting of

(A) the bill or resolution number,

(B) the name of the prime sponsors,

(C) the date the fiscal note was prepared,

(D) the name of the committee requesting the fiscal note,

(E) the name and phone number of the person who prepared the fiscal note, and

(F) the budget request unit, program, or subprogram affected.

(d) The original of a fiscal note shall be submitted to the Division of Legislative Finance and copies shall be sent to the prime sponsor, the committee requesting the fiscal note, and the office of management and budget.

(e) *[Repealed, § 2 ch 64 SLA 1992.]* (§ 1 ch 153 SLA 1968; am § 1 ch 20 SLA 1972; am § 1 ch 42 SLA 1976; am § 2 ch 60 SLA 1979; am §§ 3, 4 ch 63 SLA 1953; am §§ 1, 2 ch 64 SLA 1992; am § 4 ch 34 SLA 2007)

Revisor's notes. — Formerly AS 24.30.035. Renumbered in 1985.

Effect of amendments. — The 2007 amendment, effective January 1, 2008, substituted "three days of the request" for "five days of the request or within two days if the request is made after the 90th day of a regular session, or during a special session of the legislature" in the third sentence of subsection (a).

Sec. 24.08.036. Fiscal notes on bills affecting state retirement systems. Before a bill which would have an effect on the retirement systems of the state is reported to the

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: SB168
() Publish Date:

Identifier (file name): SB168-DHSS-IPEMS-02-08-10
Dept. Affected: Health & Social Services

Title: Trauma Care Centers/Fund
RDU: Public Health
Component: Injury Prevention/Emergency Medical Services

Sponsor: HSS By Request

Requester: Senate HSS
Component Number: 2876

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES (							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

SB 168 establishes a mechanism to provide a financial incentive for hospitals to become designated as certified trauma centers in order to encourage their participation in a statewide trauma system, with the goal of improving delivery of trauma care in the Alaska medical system. This bill establishes a fund for reimbursement of trauma care for uninsured or underinsured patients, and allows designated trauma centers to apply for compensation of claims that are otherwise uncompensated by insurance or other funds.

The Department proposes to manage this fund using existing staff resources.

Prepared by: Ward B. Hulburt, M.D., MPH, Chief Medical Officer / Director
Phone 269-8126
Division: Public Health
Date/Time 2/4/10 2:27 PM

Approved by: Alison Elgee, Assistant Commissioner
Date 2/8/2010
DHSS Finance & Management Services

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: SB 168
() Publish Date:

Identifier (file name): SB168-REV-TRS-2-8-10
Dept. Affected: Revenue
Title: Uncompensated Trauma Care fund
RDU: Taxation and Treasury
Component: Treasury Division
Sponsor: Senate HSS committee
Requester: Senate Health and Social Services
Component Number: 121

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Part-time	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Temporary	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ANALYSIS: *(Attach a separate page if necessary)*

These bills establish a $5 million fund to compensate certain certified trauma centers in Alaska for care uncompensated by the person receiving the care or by another source. This fund will be invested within the GeFonsi investment pool. No additional costs have been identified.

Prepared by: Pamela J. Leary, Comptroller — Phone 465-2300
Division: Treasury — Date/Time 2-8-10; 10:01am
Approved by: Ginger Blaisdell, Director — Date 2-8-10; 8:16pm
Administrative Services Division

(Revised 11/5/2009 OMB)

FISCAL NOTE

STATE OF ALASKA
2010 LEGISLATIVE SESSION

Fiscal Note Number:
Bill Version: **SB 168**
(S) Publish Date: 2/10/2010

Identifier (file name):
Dept. Affected: Health & Social Services
Title: Relating to state certification, designation of trauma centers, creating the uncompensated trauma care fund
RDU
Component
Sponsor: Senate Health & Social Services Committee
Requester
Component Number

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2011**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims	5,000.0	5,000.0					
Miscellaneous							
TOTAL OPERATING	**5,000.0**	**5,000.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES							
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts	3,100.0	3,100.0					
1003 GF Match							
1004 GF	1,900.0	1,900.0					
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**5,000.0**	**5,000.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2010) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This bill creates the uncompensated trauma care fund to be used to compensate certified trauma centers for practicing at the highest national standards for trauma care.

Prepared by: Celeste Hodge, Committee Aide
Phone 465-3822
Division: Senate Health & Social Services Committee
Date/Time
Approved by: Senator Bettye Davis
Date
Senate Health & Social Services Committee

(Revised 11/19/2007 OMB)

4614

Medicaid Disproportionate Share Payments

- Medicaid is a joint federal/state partnership with many requirements outlined in federal law.
- One federal requirement is that Medicaid hospital payment rates must take into account the situation of hospitals which serve a disproportionate number of low-income patients with special needs (DSH).
- Federal requirements also provide for two limits on DSH expenditures. One limits Medicaid DSH individual hospital payments to the costs of Medicaid services and services to the uninsured less the payments received for those services, and another limits the state's total DSH payments made to all hospitals.
- In order to facilitate the required calculations, each hospital that wishes to participate in the Medicaid DSH program must submit by October 1, of the calendar year preceding the state fiscal year the payment will be made, the Medicare cost report (form 2252) filed for the qualifying year; Medicaid reporting forms for the qualifying year from the *Medicaid Hospital and Long-Term Care Facility Reporting Manual*; and a log for the qualifying year for each patient having uninsured care; the log must be prepared using the *Medicaid Log of Uninsured Care Reporting Form,* the hospital must certify the log as accurate, the log must specify, in sufficient detail for the department to verify uninsured care, Charges, Admissions, Patient days, Any payments made by the patient, or on behalf of the patient by a third party, for services, and Dates of services.
- Federal law mandates three methods of qualifying for Medicaid DSH payments. Those methods are high Medicaid utilization, high low income client utilization, and pediatric outliers DSH payments (which are very insignificant under our current program, and we do pay if necessary). Currently few payments are made utilizing these qualifying standards.
- States can create additional methodologies to pay out DSH as long as those methodologies comply with state and federal law, but the foundation of any payments is still the uncovered Medicaid and uninsured costs.
- The department is currently in the process of revising our Medicaid DSH distribution methodologies as current processes were in place primarily as a Medicaid refinancing tool and have since been rendered obsolete by federal regulations and related appeal decisions. The Department of Law is working with us to identify a methodology we can legally use to target DSH funds towards a particular purpose like trauma centers.
- For 2009, we estimated there was about $23.8 million in DSH funding available under the state's overall DSH cap that we did not distribute because of a lack of funding. Under current regulation and funding availability, future years would likely look similar.

Information provided by Bill Streur, Deputy Commission of HSS and director of the Division of Health Care Services.

Alaska's federal allotment for 2010, expressed in terms of federal funds, is $20,964,262. With our average 61.12% match rate in 2010 that's total allowable DSH expenditures of $34,300,167 for non-tribal providers.

Following is a list of SFY2010 DSH Payments:

DSH SPEP paid to Providence: $3,343,719 FFY10
DSH DET paid to Fairbanks Memorial Hospital: $1,787,856 FFY10
DSH DET paid to Bartlett Regional Hospital: $1,953,050 FFY10
DSH IMD to API: $3,584,010 FFY09
DSH IMD to API: $9,639,615 FFY10
Total 2010: $20,308,250

To the department's knowledge there are no more planned DSH payments for SFY10, which would leave them with approximately $13,991,917 that they will not spend in 2010.

Alaska Medicaid DSH facility specific limits for 2010 are as follows:

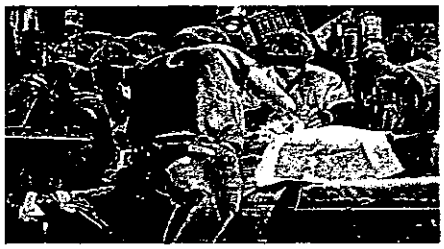
[redacted]	16,336,231

Alaska Regional Hospital	5,104,508
Bartlett Regional Hospital	6,727,455
Central Peninsula General Hospital	5,054,361
Cordova Community Medical Center	0
Fairbanks Memorial Hospital	11,807,068
Ketchikan General Hospital	1,881,611
Mat-Su Regional Medical Center	0
North Star Behavioral Health System	0
Norton Sound Regional Hospital	0
Petersburg Medical Center	213,838
Providence Alaska Medical Center	12,307,371
Providence Kodiak Island Medical Center	1,276,910
Providence Seward Medical Center	462,700
Providence Valdez Medical Center	2,074,347
Saint Elias Specialty Hospital	1,529,795
Sitka Community Hospital	0
South Peninsula Hospital	1,134,695
Wrangell Medical Center	0
TOTALS (Not including API)	**49,574,659**

Information provided by Bill Streur, Deputy Commission of HSS and director of the Division of Health Care Services.

The 2011 Alaska DSH allocation is up in the air because of potential health reform adjustments to the formula from Congressional action. Without health reform, assuming a 4% increase from 2010, and the state's 54.34% FMAP for 2011 the department estimates a 2011 DSH allocation at approximately (21,582,340/.5434) $39,717,226. The department will probably not have the 2011 facility specific limit calculations completed until approximately July 2010.

TRAUMA CARE IN ALASKA 2008



Treating Trauma

- Like heart disease, cancer or malaria, trauma is best combated with a strategy that addresses prevention, acute care and rehabilitation.

What is Trauma?

- 1966 National Academy of Sciences whitepaper: Accidental Death and Disability: The Neglected Disease of Modern Society"

  During this period, more people were dying on our highways each year then during the entire Vietnam conflict.

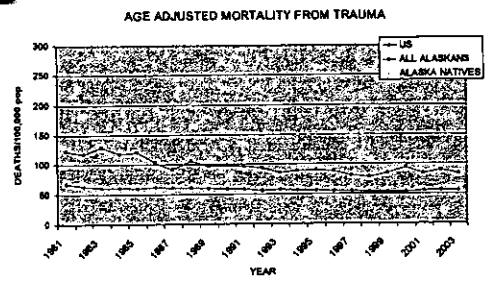
Trauma in Alaska

- Leading cause of death age 1-44
- 400-500 Alaskans die each year
- Over 5000 admitted to the hospital
- Over 1000 with permanent disability
- 800 Alaskans hospitalized with brain or spinal cord injuries

Trauma in Alaska

- Motor vehicle crashes leading cause of death
- Firearm related injuries, second
- 2004 hospital cost for Alaska trauma patients over $73 million
- ~ 25% over trauma admissions uncompensated

DEATH FROM TRAUMA IN ALASKA



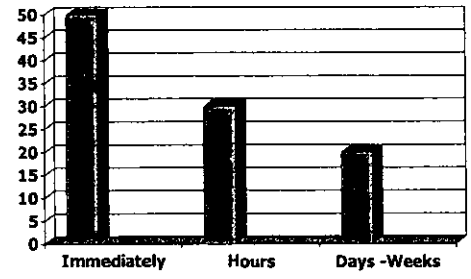
HISTORY OF TRAUMA SYSTEMS

- National Highway Safety Act 1966
- EMS System Act 1973
- Trauma Systems Planning and Development Act 1990
- Skamania conference 1998

Trauma Systems

- A trauma system consists of hospitals, personnel, and public service agencies with a preplanned response to caring for the injured patient

Death from Trauma



Trauma Systems

- Facilities (trauma center designation)
- Personnel (training)
- Patient transport
- Triage

Facilities-Trauma Centers

- Level I -Definitive subspecialty care, research
- Level II – Definitive subspecialty care, surgery, ortho, neurosurgery
- Level III- General surgery, ortho, no neurosurgery
- Level IV- Stabilization, limited or no surgical capacity

Personnel

- ATLS
- TNCC
- ETT first responders

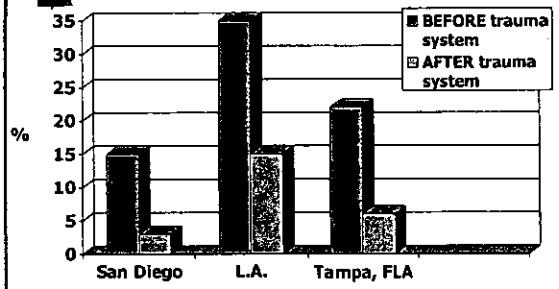
Transport and triage

- Guidelines that take into account local resources and capabilities
- Head Injury Guidelines
- Burn Triage

Trauma Systems

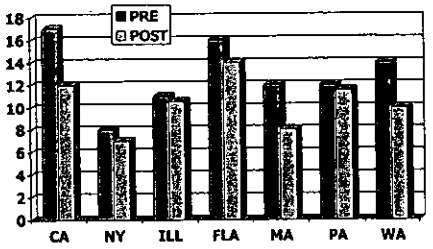
- 15-20% improvement in survival of the seriously injured
- Increase productive working years
- Improve statewide disaster preparedness
- Inclusive systems

Preventable Deaths: The impact of Trauma Systems



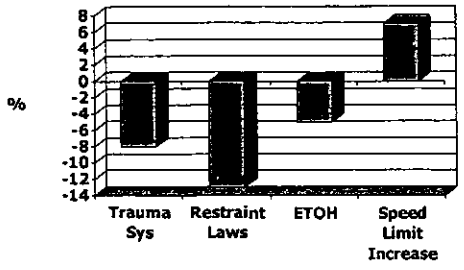
Trauma Systems & crash mortality

Nathens et.al. 2000



Trauma Systems & Crash Mortality

Nathens et.al. 2000



Trauma Centers and Disaster Preparedness

- Trauma centers have usually received the first wave after terrorist attack or natural disaster
- WTC 1993, 2001
- Oklahoma City
- Katrina

Trauma Center and Disaster Preparedness

- Maintain readiness
- Staffed for all types of injury
- Broad communications with regional hospitals and aeromedical resources
- Surge capacity
- Decontamination
- Resources to facilitate patient recovery

Trauma Systems and Disaster Preparedness

- Terrorism- Worldwide explosive attacks cause the majority of deaths and casualties from acts of terrorism
- Economical, readily available

Trauma Systems and the Public

- 2004 Harris poll
- Most people want a trauma system in their area
- 83% felt it was as important as fire department
- 80% were willing to pay extra for it

Trauma Systems and the Public

- 75% of those interviewed "thought" there was a trauma system in their state
- Only 8 states have comprehensive systems
- 15 no system at all
- 27 states including Alaska are "works in progress"

Alaska Trauma System

- 1993 statute- EMS authority for designating trauma centers created
- Hospital participation voluntary
- Standards for trauma center designation follow American College of Surgeons criteria

Alaska Trauma System

- Verification of compliance by outside reviewers for Level I, II, III
- In-state review for Level IV

Alaska Trauma Systems Review Committee

- MDs, nurses, admin, and prehospital
- Oversight- Trauma designation
  - EMS/ prehospital triage and inter-facility transfer guidelines
  - Trauma system performance improvement

Alaska Trauma System-14 years later

- Twenty–four hospitals in Alaska
- One level II center - ANMC
- Four level IV centers - NSH - MEH - YKHC - SCH

8 other reviews or consultations

Alaska Trauma System: Where do we go now ?

- Increasing facility participation is paramount
- "Carrots and sticks"

"Sticks"

- Require participation
- Tie to facility licensing or Medicaid participation

Carrots

- Caps on the medicolegal liability of designated trauma centers taking care of injured patients
- Cover the cost of uncompensated care of trauma patients treated at designated trauma centers

"Carrots"

- Funding of trauma systems.
- Sin Taxes
- Oil revenues- i.e. WY
- Homeland Security

Where do we go now? Proposed Legislation

- Draft legislation being prepared
- Cap liability of designated trauma facilities at $500,000 for injury or death
- Creation of a Trauma System Fund- defray the cost of uncompensated care when given at designated trauma centers

Alcohol Screening and Brief Intervention in the Injured Patient:

Injury Prevention in the Hospital and ER

Public Health Impact of Alcohol Use & Abuse

- Alcohol abuse is a preventable public health problem contributing to 100,000 deaths and costing 185 billion dollars annually
- Alcohol misuse has far-reaching implications for the individual drinker, family, workplace, community, and health care system

Alcohol and Injury

What Percent of American Indian and Alaska Native Deaths Are Alcohol-Related?

- ❖Motor Vehicular— 73%
- ❖Pedestrian—75%
- ❖Homicide—85 %
- ❖Suicide —84%

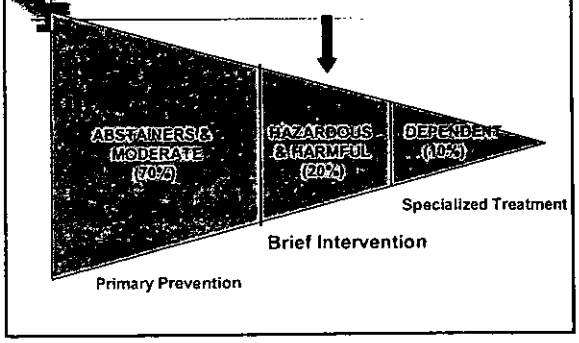
Sources: May P, *The Epidemiology of Alcohol Abuse Among American Indians: the Mythical and Real Properties.* The Primary Care Provider, Volume 20, March 1995, Indian Health Service; . *Ethnicity and Alcohol-Related Fatalities, 1990-1994, by* Voas RB and Tipetts AS, National Highway Traffic Safety Administration, 1999. Courtesy of D. Wallace

Literature Review

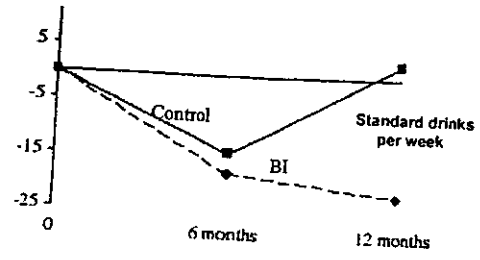
- Prochaska and DiClemente* (1983)
- Bien et al (1993)
- Gentilello* (1999)
- D'Onofrio* and Degutis* (2002, 2005)
- Dischinger* and Soderstrom* (2001)
- Moyer et al (2002)
- Soderstrom* and DiClemente*, (2005)
- Sanddal(s)* and Upchurch*, (2005)
- Schermer*, (2006)

*Assisting the IHS-Tribal ASBI Program

The Spectrum of Alcohol Use: **Who Are We Targeting?**



Alcohol Interventions in a Trauma Center as a Means of Reducing the Risk of Injury Recurrence
Gentilello LM (Dunn CW) et al: Ann Surg 1999;230:473-483

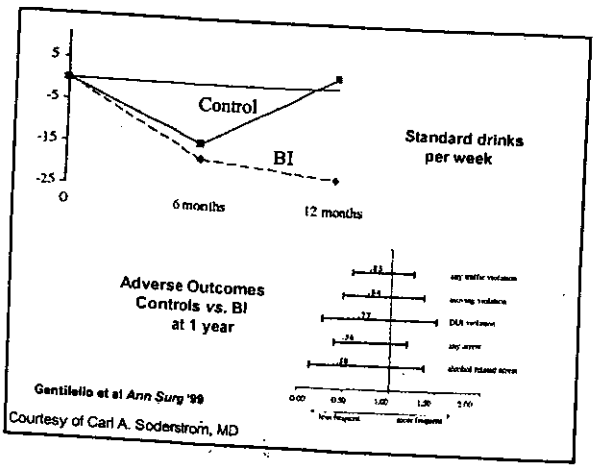


Key Trauma Center Study

Showed beneficial results with a brief intervention in TC patients

- The experimental group demonstrating decreases in drinking at 6 months and at one year
- The control group returned to pre-injury level (or higher) at one year
- The experimental group had a 47% reduction in injuries requiring emergency department care or trauma center admission

Gentilello LM, Rivara FP, Donovan DM, Jurkovich GJ, et al: Alcohol interventions in a trauma center as a means of reducing the risk of injury recurrence. *Ann Surg*, 1999;230: 473-483.



Courtesy of Carl A. Soderstrom, MD

R.A. Cowley STC Longitudinal Death Study

- Not offering advice/intervention to STC patients who test positive for alcohol misuse results in significant subsequent higher death rates from injury
- 27,000 patients discharged from the STC and followed for 1.5 to 14.5 years
- A subsequent injury death occurred in 1,631 or (23%) in those who tested toxicology positive at the initial STC admission

Dischinger PC, Mitchell KA, Kufera JA, Soderstrom CA, et al: A longitudinal study of former trauma center patients: the association between toxicology status and subsequent injury mortality. *J Trauma* 2001;51:55-564.

Billings Area Injury Death Study

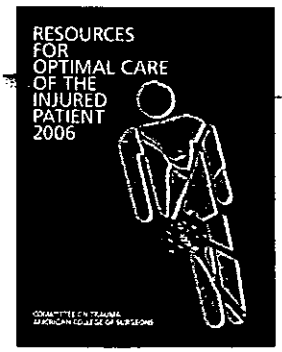
- 38% of patients with fatal injuries had a previous IHS Service Unit ETOH encounter without prevention counseling within the previous six months
- Injury-Prevention activities should be initiated at the time of any health-system contact in which alcohol use is identified
- Intervention strategies should be developed that convey the immediate risk of death from injury in these patients

Analysis of Prior Health System Contacts as a Harbinger of Subsequent Fatal Injury in American Indians. TL Sanddal, J Upchurch,ND Sanddal and TJ Esposito; Journal of Rural Health, 2005

"Prevention Paradox"

- For every known alcohol dependent person there are more than six persons who have alcohol-related problems, but are not dependent
- A majority of this group of non-dependent alcohol user group are in the hazardous and harmful alcohol use group

Personal Communication with Daniel Hungerford, DPH, MS; CDC; May 2006



Prevention

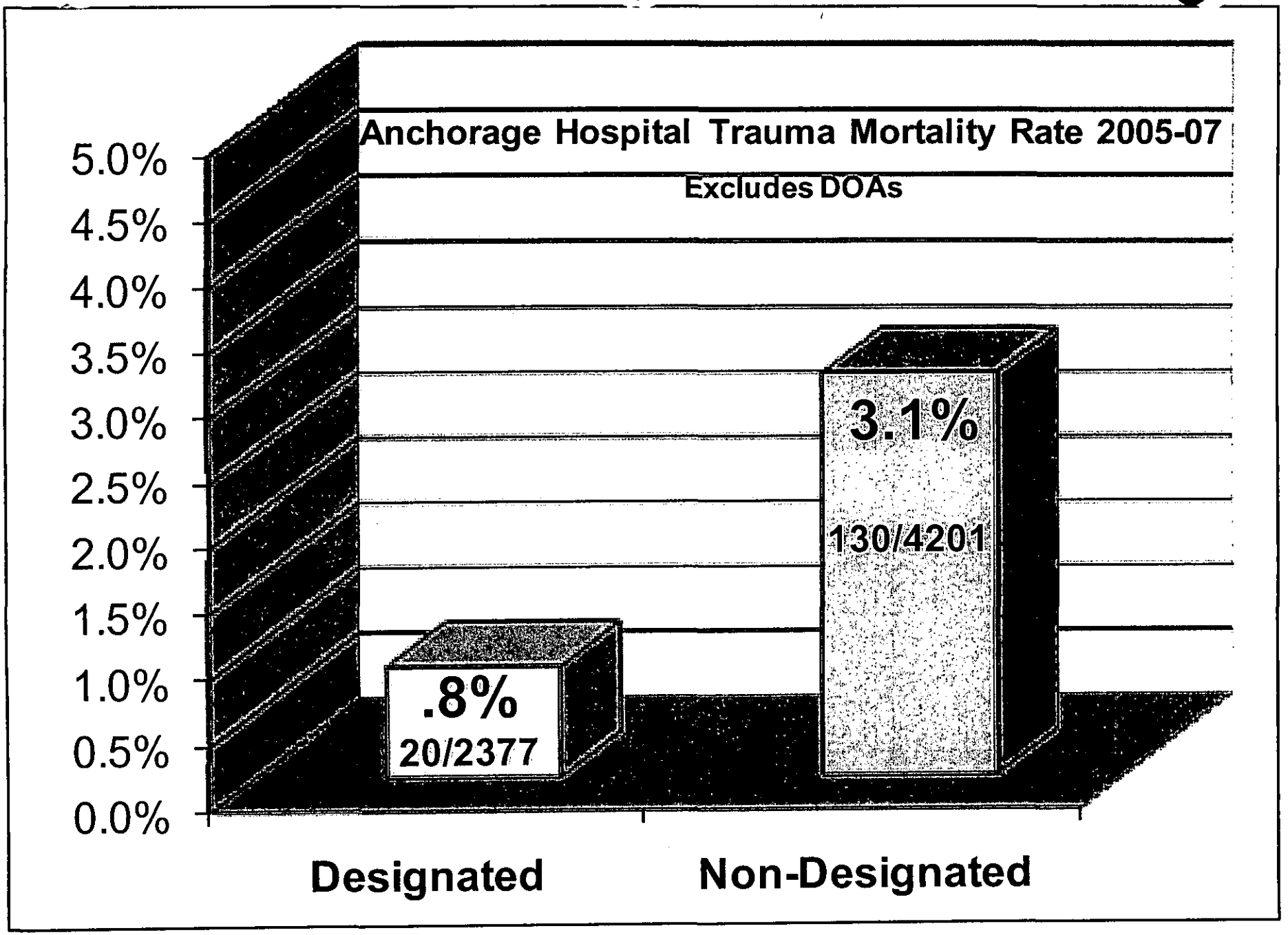
Level I & II - Essential
"Have a mechanism to identify patients who are problem drinkers"

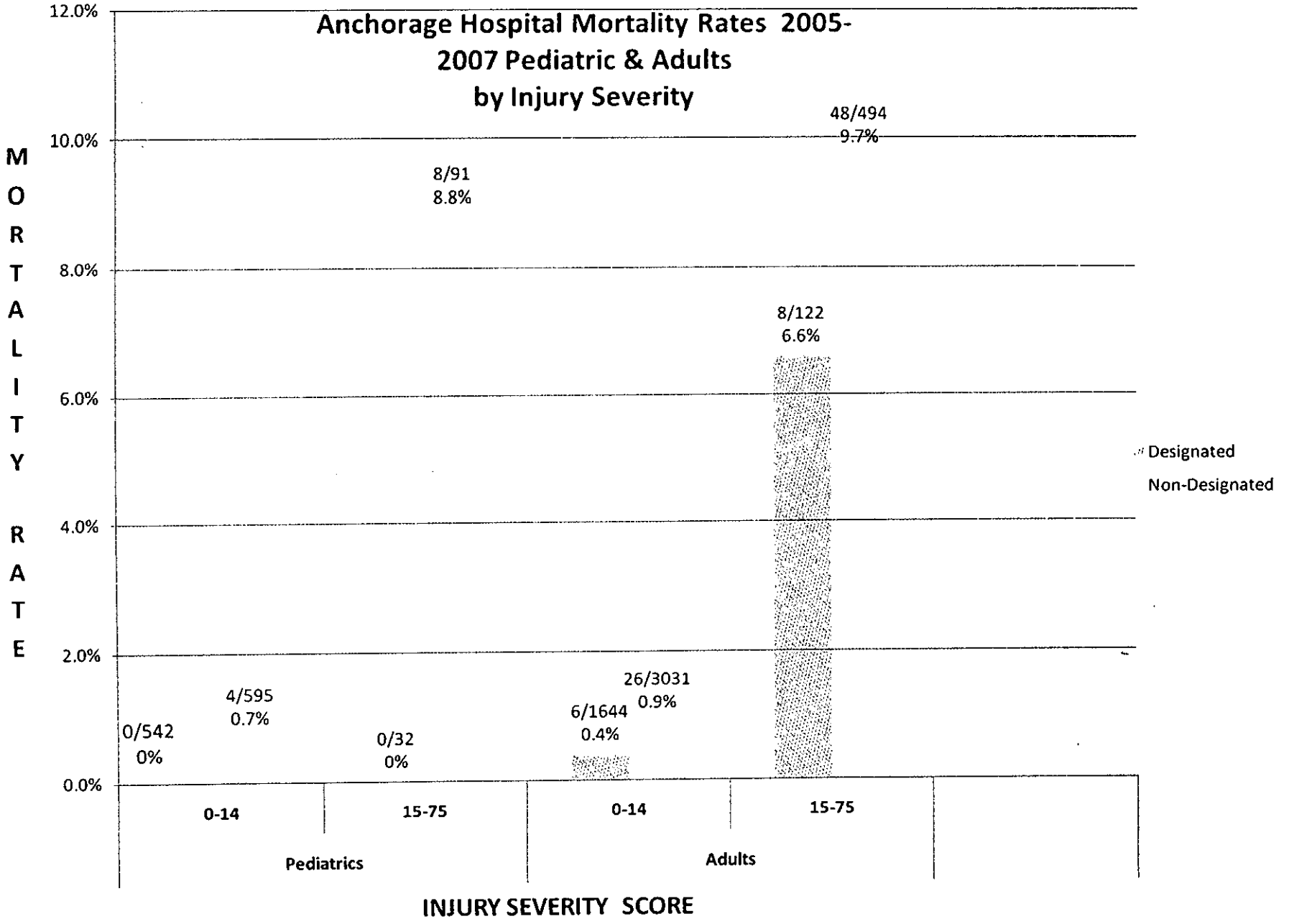
Level I – Essential
"Must have the capability to provide an intervention for patients identified as problem drinkers."

2006 ACS Frequently Asked Questions (FAQ) website in development as of Jan 15, 2007 (facs.org/trauma/faq_answers.htm)

ASBI Documentation and Reimbursement

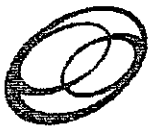
- Chart Documentation, PCC and HER
- Pre-Screen, Alcohol Screen (AS) & Brief Intervention (BI)
- Coding
- CPT-HCPCS Codes
- H-0049 Screening
- H-0050 Screening and Brief Intervention
- RPMS
- CRS... GPRA
- Billing and Reimbursement
- ICDA Codes


Anchorage Hospital Trauma Mortality Rate 2005-07
Excludes DOAs
5.0%
4.5%
4.0%
3.5%
3.0%
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
.8%
20/2377
3.1%
130/4201
Designated
Non-Designated


Anchorage Hospital Mortality Rates 2005-2007 Pediatric & Adults by Injury Severity
MORTALITY RATE
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
0/542
0%
4/595
0.7%
0/32
0%
6/1644
0.4%
26/3031
0.9%
8/91
8.8%
48/494
9.7%
8/122
6.6%
Designated
Non-Designated
0-14
15-75
0-14
15-75
Pediatrics
Adults
INJURY SEVERITY SCORE

Objectives and Methodology

- The Coalition for American Trauma Care commissioned Harris Interactive to conduct a survey of the public's views of and support for trauma systems.
- Telephone interviews were conducted with a nationally representative sample of 1000 adults aged 18 and over, between November 3rd and 14th, 2004.
- Final data were weighted by age, education, gender, income, and region, where necessary, using 2003 Current Population Survey data to adjust for sampling biases, if any.
- With 1,000 respondents, the sampling error is +/- 3%.



Key Topics

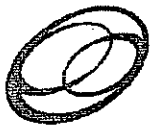
- Knowledge about leading causes of death
- Perceived value of and expectations about trauma centers
- Perceived value of and expectations about trauma systems
- Willingness to support funding of trauma centers and systems
- Disaster preparedness and trauma systems

Harris Interactive Ground Rules For Publicly Released Surveys

- Harris Interactive Inc. has very strong ground rules for surveys which may be publicly released. No other survey firm has stronger rules.
- Our **Five Rules** ensure that our surveys are never used to lead or mislead policymakers or the public. We do not do "hired gun surveys."
  1. **The survey must be fair, balanced and comprehensive.**
  2. **If the survey is publicly released, the full survey report must be released.**
  3. We will not include questions for possible publication about our clients' company or their products or brand names, or the names of their competitors. (The one exception: we sometimes do readership surveys or audience measurement surveys which ask about our clients.)
  4. **The survey must not be used to mislead the public, the media, policymakers or anyone else.**
  5. **We need to review the information that is being released prior to its release in order to check for accuracy.**

Overview

- Most Americans are not aware that injury is the leading cause of death for children, youth, and adults under the age of 34.
- After hearing a description of a trauma center, Americans value them highly and appreciate the importance of having one within easy reach.
  - Almost all Americans feel it is extremely or very important to be treated at a trauma center in the event of a life-threatening injury.
  - Nearly nine in ten Americans think it is extremely or very important for an ambulance to take them to a trauma center in the event of a life-threatening injury, even if it is not the closest hospital.
  - Nearly all Americans *believe* that if they had a serious or life-threatening injury, they *would* be taken to the hospital that is best equipped to handle their specific injury in less than 1 hour.
- Majorities of Americans feel that having a trauma center nearby is as important as or more important than having a Fire Department or Police Department.



Overview (cont.)

- After hearing a description of a trauma system, nearly all Americans recognize the importance of having a trauma *system* in place in their state.
- Large majorities feel that having a trauma *system* in place is as important as or more important than having State Police or HAZMAT teams.
- About two in three Americans would be extremely or very concerned if they learned that the trauma system in their state did not meet recognized standards. (*However, a 2002 survey of the status of trauma system development conducted by the Health Resources and Services Administration of the U.S. Department of Health and Human Services shows that only 8 states have fully developed trauma systems, 12 states do not have the authority to designate trauma centers, and the rest are in varying stages of partial development.*)
- Americans are willing to spend their own money to have trauma centers and systems in place in their states.
- Generally, Americans have high expectations of their states' trauma centers and systems when it comes to handling natural disasters or terrorist attacks.

Trauma System Consultation
State of Alaska
Anchorage, Alaska

November 2nd -5th , 2008
American College of Surgeons
Committee on Trauma

PRIORITY RECOMMENDATIONS AMERICAN COLLEGE OF SURGEONS ALASKA TRAUMA SYSTEM REVIEW

November 2-5 2008

Definitive Care Facilities

- Establish, as soon as practical, a second Level II Trauma Center in Anchorage in accordance with American College of Surgeons Committee on Trauma (ACS-COT) verification criteria to meet the existing volume and acuity demands.
- Mandate participation of all acute care hospitals in the trauma system within a 2 year time frame with trauma center certification/designation appropriate to their capabilities.
  - Facilities should seek trauma center designation at a level appropriate for their capabilities.
  - Other facilities, such as remote health care clinics, should participate with rapid patient assessment and stabilization and by following guidelines for trauma triage and transfer.
- Study pediatric trauma care needs with the goal of establishing one or more centers of excellence in pediatric trauma care.

Coalition Building and Community Support

- Develop and disseminate public information about the challenges in providing trauma care and the status of the trauma system in the state for Alaskans.

Lead Agency and Human Resources Within the Lead Agency

Develop an appropriate position classification and duty statement for a 1.0 full time equivalent (FTE), permanent trauma system manager that specifies education as a health professional, experience in trauma or emergency health care, and the administrative skills and clinical understanding necessary to support trauma system development.

Trauma System Plan

- Develop a comprehensive trauma system strategic plan consistent with the Health Resources and Services Administration (HRSA) *Model Trauma System Planning and Evaluation* document.

Coalition Building and Community Support

- Develop and disseminate public information about the challenges in providing trauma care and the status of the trauma system in the state for Alaskans.

System Integration

- Ensure that the Injury Prevention and Emergency Medical Services

(IPEMS) Section is engaged in planning with disaster preparedness, emergency management, and public health functions for integration of the trauma system.

Financing

• Provide state funding to hire a fulltime trauma system manager.

Emergency Medical Services

• Develop a central coordination center for statewide air medical resources that will maintain an updated registry of all medical aircraft to include medical services and flight characteristics (e.g., load capacity, instrument rating, landing requirements, etc); and to monitor the availability and location of air resources in near real-time.

System Coordination and Patient Flow

• Implement standardized prehospital triage and trauma activation protocols customized to the three response areas (Anchorage, Southeast, and the bush).

Disaster Preparedness

• Integrate all components of the trauma system into state and local disaster planning activities.

System-wide Evaluation and Quality Assurance

• Develop an initial set of 3-5 statewide system performance indicators from among the list of nine provided in the Pre-Review Questionnaire.

Trauma Management Information Systems

• Ensure that all elements considered essential to system development, evaluation and performance improvement in the State of Alaska are included and functional in the new trauma registry and are consistent with the National Trauma Data Standard definitions.

Statutory Authority and Administrative Rules

System Leadership

• Form an Alaska Technical Advisory Committee (ATAC) and task it with providing the Alaska Council on Emergency Medical Services (ACEMS) with recommendations regarding the following functions: data systems, trauma system planning, system-wide performance improvement and patient safety, trauma education (Advanced Trauma Life Support [ATLS], Trauma Nurse Core Curriculum [TNCC], Prehospital Trauma Life Support [PHTLS], etc), trauma center review and certification, injury prevention and control, public policy, and research.

• Enact legislation to expand the membership of the ACEMS to represent the trauma system and to include the following members appointed as follows:

- One member, appointed by the Governor, shall represent the Alaska Chapter of the American College of Surgeons Committee on Trauma.
- One member, appointed by the Governor, shall be a general surgeon who routinely participates in the care of injured patients.
- One member, appointed by the Governor, shall represent the Alaska Chapter of the American Academy of Pediatrics.
- One member, appointed by the Alaska Legislature, upon the recommendation of the Speaker of the House of Representatives.
- One member, appointed by the Alaska Legislature, upon the recommendation of the President of the Senate.

IN DEPTH
STATE HEALTH *NOTES*

Volume 27, Issue 461 February 20, 2006

PREPARING FOR THE WORST: STATES ADDRESS TRAUMA CENTERS' TROUBLES

By Christina Kent

Victims of traumatic events are at least 25 percent more likely to live if they're taken to a certified trauma center than if they are taken to a non-trauma center, according to a carefully controlled, nationwide study in the Jan. 26 *New England Journal of Medicine*.

That finding could give a boost to state legislators who are scrambling to find new sources of funds for the centers, which provide care for the most expensive conditions in the nation. In January, the Agency for Healthcare Research and Quality reported that trauma disorders have become, for the first time, the most expensive condition to treat. According to the agency's Medical Expenditure Panel Survey, trauma-related disorders cost the nation $71.5 billion in 2003

– topping the cost of treating heart conditions ($68 billion), cancer ($48 billion), mental disorders ($47 billion), and cardiopulmonary disease and asthma ($46 billion).

Trauma centers differ from general hospital emergency departments in that they provide, on a 24/7 basis, teams of trauma surgeons, plastic surgeons and other specialists who can deal with the most severe injuries within the "golden hour" – the early period of trauma where skilled intervention may mean the difference between life and death or life-long disability. The centers are capable of dealing with the most severe, life-threatening injuries, including blunt force wounds, multiple internal injuries, burns, broken bones and severe shock.

"Trauma is the number one killer of people aged one to 40," said Dr. J. Wayne Meredith, chairman of the American College of Surgeons' trauma committee. "One of the most prominent tools to prevent those deaths is the trauma system."

The nation's approximately 600 regional trauma centers – which also are often public and teaching hospitals – collectively lose $1 billion a year, according to Connie Potter, executive director of the National Foundation for Trauma Care. And they're facing growing pressure from rising health-care costs, increases in the number of un- and underinsured patients, and physicians' growing unwillingness to provide on-call trauma care, which many regard as underpaid and highly risky (because of possible malpractice lawsuits).

A 2004 report by the Foundation says that, without corrective action, the current rate of closures among the nation's trauma centers will increase, and 10 percent to 20 percent will close within three years.

Preventing Closures

States play an enormously important role in providing trauma care. Not only do they pass legislation authorizing state agencies to design trauma systems, but they strive to keep the trauma centers functioning by channeling to them special funding streams.

Since car crashes are the number one cause of trauma (see chart), many states elect to help pay for trauma care by imposing fines on individuals who are convicted of drunken or reckless driving, or who lose their driver's license. Some states also use revenues from tobacco, alcohol or firearms taxes, while others tax auto insurance or fine persons convicted of illegal drug distribution.

A number of states are currently considering legislation to shore up their trauma centers; some

bills would address the crisis in getting physicians to provide on-call trauma care by increasing their reimbursement.

In New Mexico, HB 356 and SB 356, introduced at the behest of Gov. Bill Richardson, would provide $6 million to create a trauma system fund. Of that amount, $4 million would go to support trauma services at the University of New Mexico hospital and $2 million would go to strengthen the trauma system throughout the state.

In Hawaii, the Legislature is considering HB 3142, which states that Hawaii's "extreme isolation and limited physician re-supply capability renders Hawaii uniquely vulnerable to natural disasters that may occur in a mid-Pacific environment." The bill would create a fund to reimburse the state's only trauma center for documented un- or under-compensated care (including supplemental funding for treatment given to Medicaid beneficiaries). The fund would draw money from state surcharges, the state's environmental response revolving fund, as well as any funds that are separately appropriated by the Legislature or granted by Congress (as long as they don't place an obligation upon the Legislature to continue the purpose for which the federal funds are made available).

In Florida, HB 1697 and HB 497 were signed into law in 2005 after first being vetoed by the governor, who reportedly had concerns about the way the funds were to be distributed. The first bill is expected to raise as much as $4.7 million annually for the state's trauma centers by increasing the penalties for motorists who cause serious injuries (they now will be charged $500) or fatalities ($1,000) in traffic accidents.

The second bill will provide new funding for in-state trauma care by increasing the fine for running a red light from $60 to $125. Florida's 20 trauma centers incur an annual net loss of $96 million, said Amy Maguire, director of the Alliance to Save Florida's Trauma Care. The funds will be distributed to the hospitals based on their state of "readiness" (e.g., how many physicians are on call), and the severity and volume of injuries treated.

Pennsylvania, which has one of the oldest trauma systems in the nation, is considering a bill (HB 502) that would seek to retain trauma providers by increasing their reimbursement. The bill notes that many high-risk health-care providers and institutions in the state are being paid less than Medicare rates by private insurers. "[H]igh-risk health-care providers and institutions may leave this Commonwealth or close down if the low reimbursements continue," the bill states. It would require insurers to pay 25 percent more than the Medicare fee to high-risk providers

(defined as those who pay malpractice premiums in one of the four highest classes) for providing covered treatment to trauma patients at a state-accredited Level 1 or 2 trauma center – or the provider's "usual and customary charge," whichever is less.

If states play the primary role in creating trauma centers, the federal government historically also has contributed. For years, the Health Research and Services Administration's (HRSA) Trauma/Emergency Medical Services program provided grants to states to help them plan trauma systems. But the federal FY 2006 budget zeroed out funds for that program. It had been funded at about $3.4 million a year since 2001, Potter said, and grants to individual states had averaged about $40,000 per state.

Both Potter and Meredith were highly critical of the fact that the program was eliminated. "Having a federal agency that supports trauma care is critical," Meredith said. "It's the catalyst, the grist of the mill." Trauma costs the nation billions of dollars a year, he noted. "Spending $3 to $4 million to keep that on track seems like a pretty good investment to me." Repeated calls to HRSA for comment were not returned.

How Many?

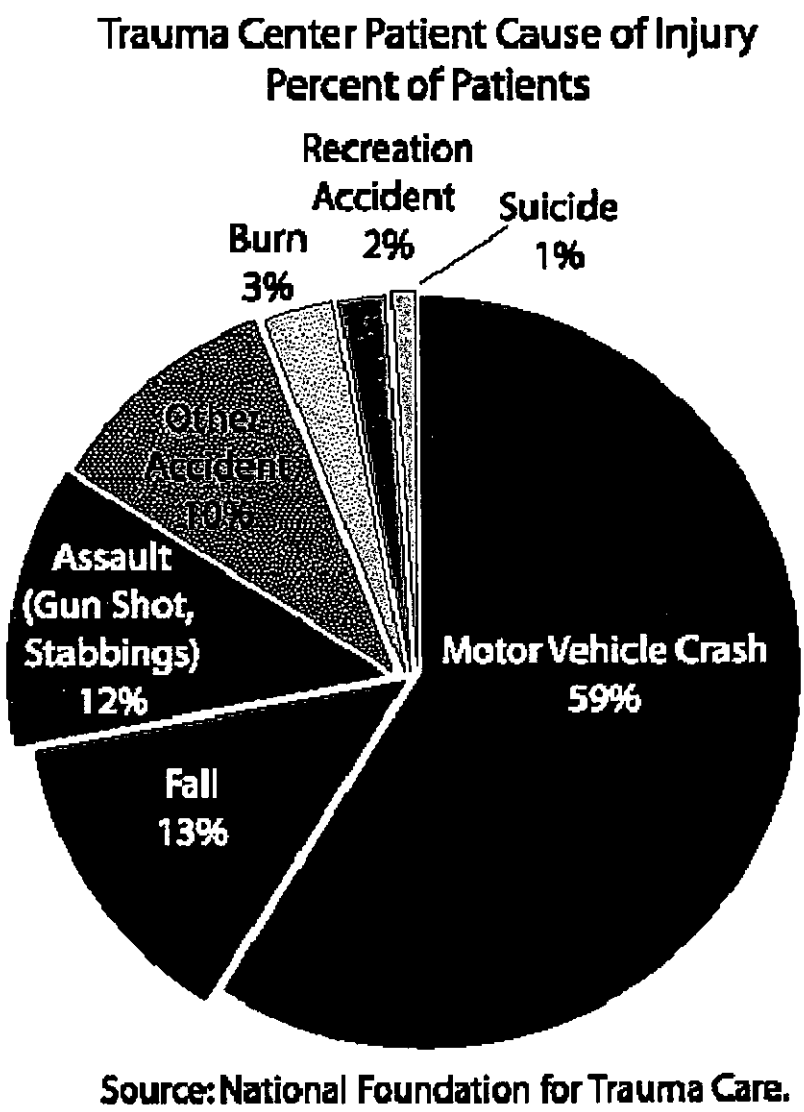
September 11th and Hurricanes Katrina and Rita have raised the profile of trauma centers. But it's not clear how many centers the nation needs. A September 2005 issue brief by Charles Branas at the University of Pennsylvania notes that the geographic distribution of trauma centers varies widely across states and regions. Branas and colleagues calculated that 84.1 percent of the U.S. population has access to a Level 1 or 2 trauma center within one hour. (Level 1 and 2 trauma centers provide the most sophisticated care; Level 3 centers transport the most severely wounded patients to a Level 1 or 2 center.)

The Northeast has the greatest access, followed by the West, the Midwest, and the South. About 36.7 million people – most of whom live in rural areas – do not have access within one hour, Branas found.

A significant proportion of people could reach a trauma center within the "golden hour" by crossing state lines, Branas pointed out. As of 2005, 47 states had protocols to enhance interstate cooperation during mass casualty incidents, but just 31 states had standardized protocols for border crossing of day-to-day trauma patients.

Policymakers who are trying to evaluate their trauma systems can measure how long it takes

their state's residents to reach a trauma center, in comparison to national norms, Branas suggested. This would enable policymakers to "more realistically allocate scare resources," he wrote.



Tara Lubin contributed reporting to this story.

(printer-friendly version)

SUPPORT LETTERS FROM:

1. Alaska State Medical Association

2. Alaska State Hospital and Nursing Home Association

3. Mark S. Johnson and Frank Sacco, MD

Alaska State Medical Association

4107 Laurel Street • Anchorage, Alaska 99508 • (907) 562-0304 • (907) 561-2063 (fax)

October 13, 2008

Regina Chennault, MD
Frank Sacco, MD
4315 Diplomacy Drive
Anchorage, AK 99508

Via fax: 729-2746

RE: Alaska Trauma System

Dear Drs. Chennault and Sacco:

Thank you, Dr. Chennault for presenting at the ASMA House of Delegates Meeting on Saturday, September 27, 2008.

By consensus the ASMA HOD supported the concept of an appropriate trauma system for Alaska. However, the proposal recommended that there be a $500,000 cap on all damages for treatment of trauma patients in a state certified trauma center. The HOD recommended that be dropped from your proposal as any cap on economic damages would likely be found unconstitutional in Alaska. Additionally, the HOD also recommended that the proposal be amended to provide for a mechanism to directly compensate physicians for providing treatment for uninsured trauma patients in a state certified trauma center. (This would be for physicians who are not employees of that certified trauma center).

Several individual HOD members also suggested that you may wish to explore Alaska's "Good Samaritan" laws in lieu of any special economic damages caps which, as previously stated, are constitutionally problematic.

Please let me know if I may be of any future assistance.

Sincerely,

By: James J. Jordan, Executive Director
For: The Alaska State Medical Association

CC: John Raster, MD, Speaker of the House
Tom Vasileff, MD, President
J. Ross Tanner, MD, Immediate Past President

ASHNHA
Alaska State Hospital and Nursing Home Association

426 Main St
Juneau, Alaska 99801
(907) 586-1790
www.ashnha.org

TESTIMONY ON SENATE BILLs 168 and SENATE BILL 169
February 8, 2010

ASHNHA represents 27 private, federal, state, and tribal health care facilities located throughout Alaska. The testimony presented here has been approved by ASHNHA's general membership (see detailed member list at bottom of testimony).

ASHNHA's membership supports **SB 168** and its companion bill **SB 169.**

This incentive based approach to increasing trauma treatment capability in Alaska is well reasoned and addresses one key barrier that discourages facilities from seeking trauma designation. A key barrier not addressed by SB 168 is the availability and cost associated with assuring certain physician specialties are on hand to deal with trauma cases. This barrier will continue to limit the ability of hospitals to achieve optimal trauma designation levels unless it too is addressed. In order to solve this problem Alaska's physician community will have to be included in the discussion.

A possible approach might be to broaden Section 18.08.085 to allow the Commissioner of DHSS discretion to use the 'fund' to help offset costs incurred to meet physician staffing requirements necessary to achieve trauma designation. We understand other states are deploying innovative strategies to address the physician staffing challenge which Alaska could possibly learn from and incorporate into this incentive based program if the language of Section 18.08.085 were broader.

ASHNHA supports **SB 168 and SB 169** and urges their passage from Senate HSS to the next committee of referral at the earliest possible time. Thank you for the opportunity to testify.

This Testimony is on Behalf of the Following Alaska Health Care Facilities

Alaska Regional Hospital, Alaska Native Medical Center, Bartlett Regional Hospital, Central Peninsula General Hospital, Cordova Community Medical Center, Denali Center Nursing Home, Fairbanks Memorial Hospital, Heritage Place Nursing Home, Kanakanak General Hospital, Ketchikan General Hospital, Maniilaq Health Center, Mt. Edgecumbe Hospital SEARHC, Norton Sound Regional Hospital, Petersburg Medical Center, Providence Alaska Medical Center, Providence Extended Care Center, Providence Kodiak Island Medical Center, Providence Seward Medical & Care Center, Providence Valdez Medical Center, Sitka Community Hospital, South Peninsula Hospital, St. Elias Specialty Hospital, Wrangell Medical Center, Yukon Kuskokwim Delta Regional Hospital, North Star Behavioral Health, Wildflower Court Nursing Home.

ASHNHA Contact: Rod Betit • rbetit@ashnha.com • 907 586-1790

[redacted]

To: Sen. Bettye Davis
Subject: RE:

From: peggmac@aol.com [mailto:peggmac@aol.com]
Sent: Monday, February 08, 2010 12:41 AM
Subject:

Dear Senator Bettye Davis, Representative Sharon Cissna, Representative Bob Herron, and Representative Jay Ramras,

I am a nurse practitioner in Anchorage in district K and am writing to support House and Senate Bills 168 and 169, sponsored by Senator Bettye Davis and Representatives Bob Herron and Jay Ramras. Although I don't directly take care of seriously injured patients I have been teaching Community Health Aides for 31 years how to take care of seriously injured patients. Trauma patients do better when there are trauma centers and a trauma system to take care of them. This is not a partisan issue as anybody can be seriously injured.

There is no trauma system in Alaska and there are very few trauma centers. Alaska ranks last in availability of quality trauma care for the majority of the population. A 2008 review by the American College of Surgeons recommended that the State move as quickly as possible to create a trauma system. Alaska needs a trauma system that is there for all Alaskans. Please help by supporting this legislation. I would espcially like to thank Senator Bettye Davis, Representatives Bob Herron and Jay Ramas for sponsoring this legislation.

Sincerely,

Peggy McMahon, RN, CPNP

ANMC, Community Health Aide Program Instructor

[redacted]

adn.com
Anchorage Daily News

Emergency trauma care needs improvement in Alaska

COMPASS: Other points of view

By MARK S. JOHNSON and FRANK SACCO, M.D.

(03/23/09 19:34:23)

Imagine you and your family driving across Anchorage. As you pass through a major intersection, a drunk driver runs a red light and hits your vehicle broadside. In an instant, you and your passengers face a life or death situation. If you're still conscious, you may think, thank God this happened in Anchorage where we have state of the art emergency medical services.

The Anchorage Fire Department has exceptional ambulance services, staffed with well-trained paramedics. Local hospitals have sophisticated emergency departments staffed 24 hours a day with qualified emergency medicine physicians, nurses and support personnel.

You can be confident that you will receive emergency trauma care that compares favorably with care virtually anywhere else in the nation. Right?

Maybe, but maybe not.

Though Alaskans die from injury at the second highest rate in the U.S., there is no statewide system of trauma care. In Anchorage, only the Alaska Native Medical Center has been verified by the American College of Surgeons and certified by the State of Alaska as a trauma center (Level II). Neither Providence nor Alaska Regional Hospital has achieved this national standard.

Trauma center certification means that a hospital has surgical teams readily available to take care of the most seriously injured patients at all times. Backup teams are available and outcomes are continuously reviewed to improve care.

Serious traumatic injuries can produce internal bleeding in the brain, spinal cord or internal organs. Often, this bleeding can be stopped only by surgeons in hospital operating rooms. Studies have verified the "golden hour of trauma," meaning that critically injured persons have increased chances of survival if treated within that time. Trauma centers, as part of a system of care, have been shown to decrease the mortality of the seriously injured 15 percent to 25 percent. Although rural areas may not meet the golden-hour standard, improvements in the statewide systems have been shown to achieve better outcomes for patients seriously injured in remote areas as well.

The Alaska Department of Health and Social Services recently contracted with the Committee on Trauma of the American College of Surgeons (ACS) to review Alaska's trauma care. That review notes Alaska has excellent injury prevention programs, extensive and creative networks for ground and air medical transport, medical specialists in Anchorage and a good relationship with Harborview Trauma Center (Level I) in Seattle.

Among Alaska's deficiencies: Anchorage does not have another Level II trauma center, so there are two systems of trauma care, one for Alaska Natives that follows national standards and another for non-Natives. The team identified no statewide trauma plan and no incentives or requirements for hospitals to participate in the system. State government devotes few resources to coordinating trauma care, and there seems to be very little public awareness of these issues.

The review team recommended requiring all acute-care hospitals to become designated as trauma centers at a level appropriate to their resources and size within two years (Levels II, III or IV). They recommended getting a second level II trauma center in Anchorage as soon as possible, along with a pediatric trauma center. Currently, due to a shortage of Anchorage surgeons willing to take care of children, some seriously injured non-Native children may need to be treated at the Alaska Native Medical Center.

Representative John Coghill Jr. recently introduced House Bills 168 and 169 to create incentives for hospitals to become trauma centers and to offset some of the cost of uncompensated trauma care. The Department of Health and Social Services should be commended for this comprehensive and impartial review of trauma care in Alaska. We urge Alaskans to support these bills and encourage the legislature and Gov. Palin to carefully consider the recommendations in the ACS report.

We hope the scenario above never happens to you but, if it does, let's make sure that the care we expect for our loved ones is available for all Alaskans when we need it.

Mark S. Johnson, MPA, retired as chief of Community Health and Emergency Medical Services for the State of Alaska in 2004. Frank Sacco, M.D., is chairman of the Alaska Trauma Systems Review Committee. The full report on Alaska's trauma care system is available at www.chems.alaska.gov.

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OPINION

COMPASS: *Points of view from the community*

Alaska needs a better trauma system

By FRANK SACCO and MARK S. JOHNSON

Sacco

Alaska is blessed with exceptional physicians and quality medical resources, but lack of an organized trauma system means that access to timely, quality care cannot be assured.

Johnson

Alaska is much safer than it was a generation ago. From 1980 to 2004, the unintentional injury death rate dropped more than 50 percent. Without this improvement, an additional 300 Alaskans would have died in 2004. However, Alaska's 2004 rate remained 30 percent above the national average.

We are all aware of the terrible toll of cancer and cardiovascular diseases, but the leading cause of death for people younger than 44 is injury. It remains a major cause of death and disability for all age groups. For every death approximately three people are left with permanent disabilities.

As with other diseases, prevention is preferable to treatment. Alaska's dramatic reduction in injury deaths is largely attributable to prevention, including use of child restraints and safety belts, reduced rates of drunken driving, and increased use of personal flotation devices. Though prevention is paramount, we also must be prepared to provide the best possible care for those who become injured.

A trauma system is an organized, state-coordinated effort to deliver the full spectrum of care to injured people. The integration of EMS systems, public safety agencies, air medical services and health care facilities ensures that patients receive the most efficient, effective care possible from time of injury through rehabilitation. Trauma systems have been shown to reduce death from injury by as much as 25 percent and are recognized as an integral part of a state's EMS and disaster response system.

According to a 2004 Harris poll, most people want a comprehensive trauma system in their area. Throughout the United States, 83 percent of those surveyed felt a trauma system was as essential as having a fire department and 80 percent were willing to pay extra for it. Interestingly, though 75 percent thought there was a trauma system in their state, only eight states have fully functioning systems and 15 states have no system.

Where do we stand? In 1993, the Alaska Legislature provided authority to the Department of Health and Social Services to verify and certify trauma centers. The statute does not require, or provide incentives for, hospital participation. It does state that no hospital can represent itself as a trauma center unless certified by the state.

Regulations adopted in 1996 require trauma centers to meet standards developed by the American College of Surgeons. Four levels are recognized, from Level I (highest) to Level IV (trauma stabilization facility). There are adequate medical resources to establish Level II trauma centers in Anchorage. In addition, it is feasible to establish Level III and IV centers throughout the state. Because of long transport times, centers of all levels are essential for improving outcomes.

Since the statute and regulations were enacted, only three of 24 eligible hospitals have successfully completed the verification and certification process. (Alaska Native Medical Center — Level II, Yukon Kuskokwim Regional and Norton Sound Regional Hospitals — Level IV).

Alaska is blessed with exceptional physicians and quality medical resources, but lack of an organized trauma system means that access to timely, quality care cannot be assured. In recent years there have been times when critical specialties such as neurosurgery and vascular surgery have been unavailable for emergencies, necessitating transfer of some critical patients to Seattle.

Here are four steps to improve trauma care in Alaska:

1. Residents need to let legislators know that quality trauma care is important.

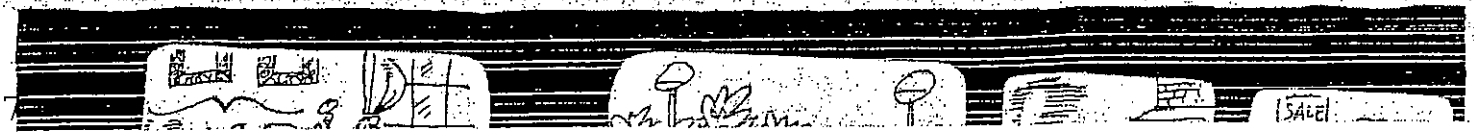
2. The Legislature should put teeth and incentives in the current statute. Successful approaches in other states include requiring trauma center certification at some level as a condition for hospital licensing and limiting medical liability for injuries treated at trauma centers.

3. Tertiary hospitals should ensure availability of critical sub-specialists 24 hours a day, seven days a week.

4. Local EMS and medical providers should organize regional trauma systems and integrate them with the statewide system.

Developing a comprehensive statewide trauma system, and expanding injury prevention efforts, will make Alaska a safer, healthier place to live.

■ Dr. Frank Sacco is chief of surgery at the Alaska Native Medical Center and chairman of the Alaska Chapter of American College of Surgeons Committee on Trauma. Mark S. Johnson was chief of Emergency Medical Services in the Department of Health and Social Services from 1979 until he retired in 2004.



Alaska Statewide Trauma System

Fact Sheet

What is Trauma?
Trauma is any bodily injury from external force. Although many people think of trauma as "accidents", it is better thought of as a disease. Like heart disease and cancer, trauma has identifiable causes and risk factors; and like these conditions, prevention is the best strategy. However, even with the best prevention efforts we still need to be able to take care of the seriously injured. We need to show the same commitment that we brought to cardiac and cancer treatment to trauma care. The seriously injured require timely diagnosis and treatment by health care professionals who are appropriately trained and provided with the necessary resources to reduce the risk of death or permanent disability.

Impact of Trauma in Alaska
Trauma is a tremendous burden on families and communities. In the 1990s, nearly 5,000 Alaskans died from trauma.

- For Alaskans, ages 1 to 44, trauma is the leading cause of death.
- On average, more than 400 Alaskans die from trauma each year. For every injury death, eleven people are hospitalized for trauma-related injuries. For every trauma death that occurs in the hospital, there are an estimated 3 people discharged with permanent disability.
- On average, more than 800 Alaskans are hospitalized each year for central nervous system injury (spinal cord and brain injuries).
- In 2004, motor vehicles were the leading cause of injury death (117), followed by firearm-related injuries (116).
- In 2004, the economic cost of hospital stay alone for trauma patients in Alaska was estimated at over $73 million. One in four hospital admissions were uncompensated.

Years of Potential Life Lost to Trauma
Death from trauma is tragic at any age. Society's loss is especially great because so many young people die from trauma. The impact can be measured in "years of potential life lost:" the number of years between early death from injury and the average age of death at age 70. Using years of potential life lost, trauma is the leading cause of potential life lost for all Alaskans followed by cancer and heart disease.

What is a Trauma System?
A trauma system is a predetermined, organized, multidisciplinary response to managing the care and treatment of severely injured people. It spans the full spectrum of care; from prevention and emergency care to recovery and rehabilitation. Best practice standards guide each stage of care to ensure that injured patients are promptly transported to and treated at facilities appropriate to their severity of injury and that they receive optimal care at each stage of their treatment.

A statewide trauma system also provides a framework for disaster preparedness and response. As part of its activities, a trauma system coordinates and monitors the

movement and care of severely injured people. Ideally, the trauma system identifies the needs and resources available at any moment and responds to insure optimal care.

Why Have a Trauma System?

For a severely injured person, the time between an injury and receiving definitive care is the most important predictor of survival—the "golden hour." The chance of survival diminishes with time, despite of the availability of resources and modern technology. A trauma system enhances the chance of survival by making sure that patients are brought to the most appropriate facility in the most efficient manner and that they receive optimal care each step of the way. Trauma systems benefit everybody regardless of income, race, party affiliation or locale. States with mature, comprehensive statewide trauma systems have experienced:

- A 9 percent decrease in motor vehicle crash deaths.
- A 15-20 percent increase in the survival rates of seriously injured patients.
- An increase in productive working years.
- An improvement in statewide disaster preparedness.

Disaster Preparedness

Trauma systems play a vital role in the community response to natural disasters or manmade incidents. Despite concerns over bioterrorism, experience has shown that the vast majority of terrorist attacks will involve explosive devices. We also do know that Alaska will experience major earthquakes in the future. A functioning trauma system is the framework for developing an organized coherent response to these incidents

Alaska's Trauma System

In 1990, state authority for designating trauma centers was created in Alaska. Under this statute hospital participation is entirely voluntary. Criteria were established and the process for designation at Levels I-IV outlined. Since the original legislation there have been only five hospitals that have been designated by the state, one level II and four level IV centers. Clearly, in order to fully realize the benefits of a trauma system, more widespread participation is needed. Alaska's trauma system is ideally an inclusive system, recognizing the vital role that rural communities, hospitals and health care professionals play in the care and management of the trauma patient. Wide-scale involvement is critical to get optimal outcomes for the seriously injured.

The Alaska Trauma Systems Review Committee oversees the statewide trauma system in Alaska. The system addresses four primary components: trauma hospital designation criteria; trauma registry (monitors system performance and provides feedback for improvement); EMS/pre-hospital triage and transport guidelines; and inter-facility (hospital to hospital) transfer guidelines.

Where to Go From Here

- Increased hospital participation is necessary for the statewide trauma system to function optimally.

- There need to be incentives for hospitals to provide the staff and resources required for trauma center designation.

- Legislation to cover the cost of uncompensated trauma care and to limit the medical liability for care given at designated trauma centers are two incentives that have been successful in other states.

- The goal of the statewide trauma system is to see every hospital in Alaska become designated at an appropriate level.

- *Surveys show that the general public overwhelmingly supports having a hospital in their community that is prepared for and capable of effectively managing a seriously injured patient—and are willing to pay for it!

*2005 Harris Interactive poll, "The American Public's Views of and Support for Trauma Systems: A Congressional Briefing."

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Division of Public Health
Section of Injury Prevention & EMS
P.O. Box 110616
Juneau , Alaska 99811-0616

SENATE BILL NO. 169

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY THE SENATE HEALTH AND SOCIAL SERVICES COMMITTEE BY REQUEST

Introduced: 3/27/09
Referred: Health and Social Services, Finance

Funding Information:	**General Fund**	**$**	**5,000,000**
	Other Funds		**-0-**
	Total	**$**	**5,000,000**

A BILL

FOR AN ACT ENTITLED

"An Act appropriating $5,000,000 to the uncompensated trauma care fund; and providing for an effective date."

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

* **Section 1.** The sum of $5,000,000 is appropriated from the general fund to the uncompensated trauma care fund (AS 18.08.085) to capitalize the fund.

* **Sec. 2.** The appropriation made by sec. 1 of this Act is for the capitalization of a fund and does not lapse.

* **Sec. 3.** CONDITIONAL EFFECT. The appropriation made by sec. 1 of this Act takes effect only if an Act enacted by the Twenty-Sixth Alaska State Legislature establishing the uncompensated trauma care fund becomes law.

* **Sec. 4.** If this Act takes effect under sec. 3 of this Act, it takes effect July 1, 2009.

Alaska State Legislature

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Senator_Bettye_Davis@legis.state.ak.us
http://www.akdemocrats.org

Senator Bettye Davis

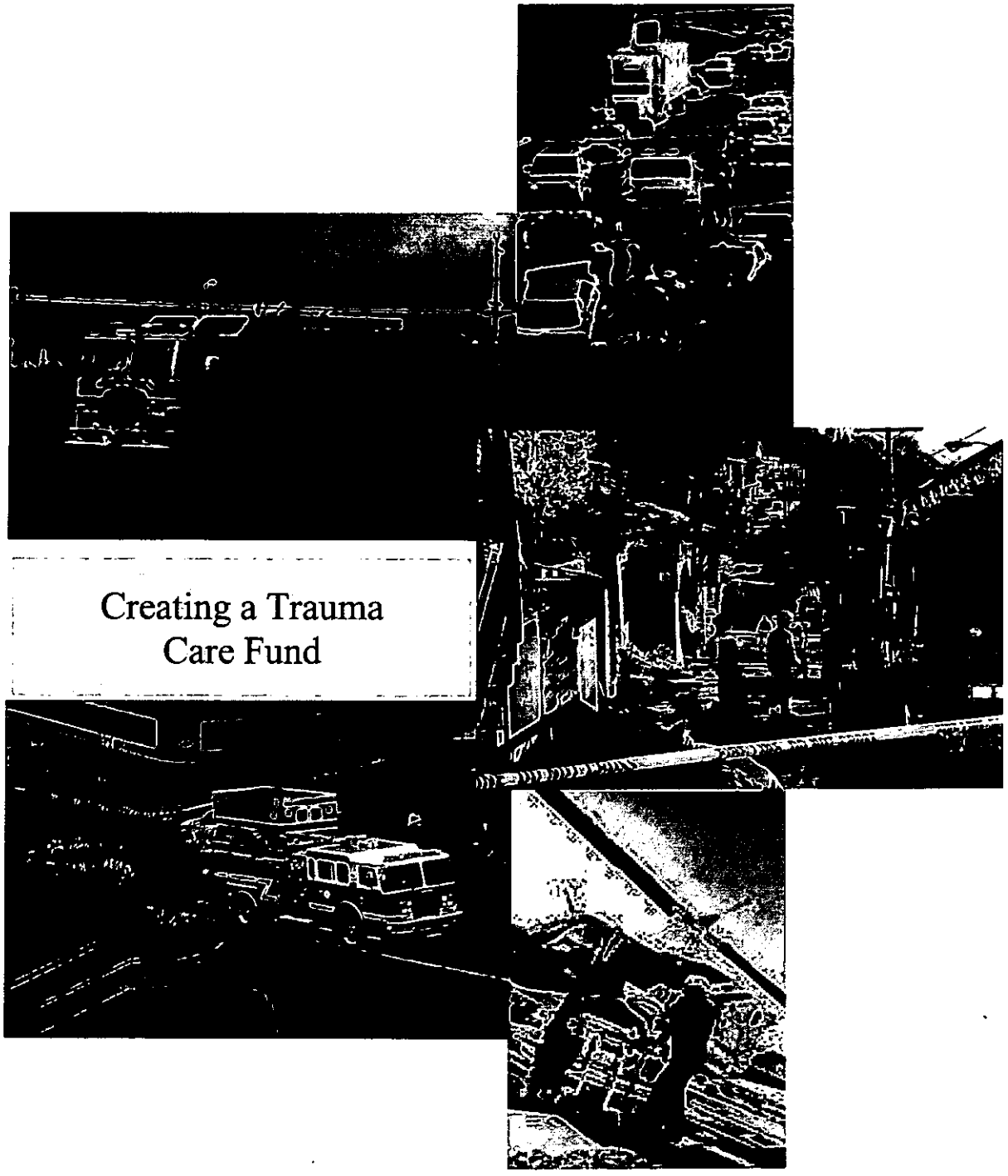
Senate Bill 168

"An Act relating to state certification and designation of trauma centers; creating the uncompensated trauma care fund to offset uncompensated trauma care provided at certified and designated trauma centers; and providing for an effective date."

People to Testify for SB 168
Senate HSS Committee 4/7/09
(arranged by Dr. Chennault, 244-1689)

- Dr. Regina Chennault, ANMHC, from Trauma Center meeting in Las Vegas.
- Mark Johnson, Juneau, former Chief EMS State of Alaska
- Dr. Sacco, ANMHC
- Jerry Godfrey, son of Trooper Chief killed in Anchorage
- Joel and Mindy Stesenski, Alaska Fair, hit by log, MedVac'd to Harborview
- Dr. Head, Anchorage
- Dr. Head, Nome
- Dr. Greenberg, Bethel
- Dr. Robinett, Fairbanks
- Dr. Burton, Nebraska, prepared Alaska Trauma Care review for American College of Surgeons

TRAUMA CARE IN ALASKA



Creating a Trauma Care Fund

House Bill 168

Senate Bill 168

ALASKA'S TRAUMA SYSTEM DEVELOPMENT FOLDER
TRAUMA LEGISLATION HOUSE AND SENATE BILLS 168

1
SPONSOR BACK UP
&
HB 168

ALASKA STATE HOUSE OF REPRESENTATIVES

SENATOR JOHN COGHILL

HB 168 Certification and Designation of Trauma Centers

Sponsor Statement

This legislation would create a trauma care fund which could reimburse trauma centers for uncompensated or undercompensated services. The bill would create incentives for becoming a certified trauma center but does not force facilities to become certified trauma centers.

Trauma is the leading cause of death for Alaskans between the age of one and forty-four and more than 800 Alaskans are hospitalized each year for spinal cord and brain injuries.

There is a "golden hour" after the injury during which proper treatment and appropriate interventions will potentially save a patient's life and prevent further damage to an injured person. Personal trauma is any bodily injury from an external force including car crashes, shootings, falls, snow machine crashes, and stabbings.

A good trauma system is an organized multidisciplinary response to managing treatment of severely injured people and it spans the full spectrum from prevention and emergency care to recovery and rehabilitation. A trauma system enhances the chance of survival by making sure patients are brought to the most appropriate facility in the most efficient manner and that optimal care is delivered every step of the way. Alaska has many good parts to our trauma response but we must do better.

ALASKA STATE HOUSE OF REPRESENTATIVES

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Session

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State Capitol
Room 214

SENATOR JOHN COGHILL

HB 168 Designate Trauma Centers and the Uncompensated Trauma Care Fund

Sectional

Section 1. AS 18.08.082 currently prescribes by regulation criteria for training programs and for personnel involved in emergency medical services. This section adds a requirement for the commissioner of Health and Social Services establish special designations for varying levels of services offered by a certified trauma center.

Section 2. Establishes a trauma care fund to be used to compensate certified trauma centers for uncompensated trauma care. The fund can accept money appropriated by the legislature, which can include donations, income from the fund, and of the other designated receipts. The commissioner is given authority to establish a special committee for review of the program and limits are set on the distribution of the funds.

Section 3. The bill has an immediate effective date.

SENATE BILL NO. 168

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY THE SENATE HEALTH AND SOCIAL SERVICES COMMITTEE BY REQUEST

Introduced: 3/27/09
Referred: Health and Social Services, Finance

A BILL

FOR AN ACT ENTITLED

"An Act relating to state certification and designation of trauma centers; creating the uncompensated trauma care fund to offset uncompensated trauma care provided at certified and designated trauma centers; and providing for an effective date."

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

*** Section 1.** AS 18.08.082 is amended by adding a new subsection to read:

(c) The commissioner shall establish special designations in regulation for varying levels of trauma care provided by a certified trauma center that shall be used to set compensation eligibility and amounts under AS 18.08.085. The designations shall be based on nationally recognized standards and procedures.

*** Sec. 2.** AS 18.08 is amended by adding a new section to read:

Sec. 18.08.085. Uncompensated trauma care fund; creation. (a) The uncompensated trauma care fund is created. The purpose of the fund is to compensate certified trauma centers in the state that receive a special designation under AS 18.08.082(c) for care uncompensated by the person receiving the care or by any

other source.

(b) The fund consists of money appropriated to it by the legislature, including donations, recoveries of or reimbursements for awards made from the fund, income from the fund, and other program receipts from activities under this chapter. Appropriations to the fund do not lapse.

(c) The commissioner shall administer the fund in accordance with the provisions of this chapter. The commissioner shall spend money from the uncompensated trauma care fund for the purpose established in (a) of this section. The commissioner may establish and seek the advice of a special committee for review of statewide trauma care and compensation standards.

(d) The commissioner may not provide more than 25 percent of the total assets, including earnings, of the fund in a fiscal year to one trauma center.

* **Sec. 3.** This Act takes effect immediately under AS 01.10.070(c).

26th Legislature(2009-2010)

Bill History/Action for 26 Legislature

BILL: SB 168 **SHORT TITLE:** TRAUMA CARE CENTERS/FUND

BILL VERSION:

CURRENT STATUS: (S) HSS **STATUS DATE:** 03/27/09

THEN FIN

SPONSOR(s): HEALTH & SOCIAL SERVICES BY REQUEST

HEARING: (S) HSS Feb 10 1:30 PM BUTROVICH 205 TELECONFERENCE

TITLE: "An Act relating to state certification and designation of trauma centers; creating the uncompensated trauma care fund to offset uncompensated trauma care provided at certified and designated trauma centers; and providing for an effective date."

Bill Number: [ ] Search Bills | Next Bill

Full Text | Minutes | Documents

Display Bill History

Jrn-Date	Jrn-Page	Action
03/27/09	0670	(S) READ THE FIRST TIME - REFERRALS
03/27/09	0670	(S) HSS, FIN
03/27/09	0670	(S) REFERRED TO HEALTH & SOCIAL SERVICES
04/08/09	Text	(S) HSS AT 1:30 PM BELTZ 211
04/08/09	Text	(S) Heard & Held
04/08/09	Text	(S) MINUTE(HSS)
04/08/09	Text	(S) MINUTE(HSS)
02/10/10	Text	(S) HSS AT 1:30 PM BUTROVICH 205

Similar Subject Match or Exact Subject Match

FUNDS
HEALTH & SOCIAL SERVICES
HOSPITALS
LICENSING
MEDICAL CARE

Bill Number: [ ] Display Bill

Next Bill

Return to Basis Main Menu (26 Legislature)

trauma centers must complete an application to ACSCOT and have a verification visit by a team from ACSCOT. Using ACSCOT criteria, Level IV trauma centers are verified by a state team, appointed by the Alaska Division of Public Health.

• **Level I – Regional Resource Center** - Level I Trauma Centers generally serve large cities or population-dense areas. A Level I Trauma Center is responsible for providing leadership in research, professional and community education. There are no Level I Trauma Centers in Alaska because, there are no trauma research and teaching facilities in Alaska.

• **Level II – Regional Trauma Centers** - A Level II Trauma Center provides comprehensive trauma care and serves as a lead trauma facility for a geographical area. A Level II Trauma Center provides educational outreach and prevention programs and assumes responsibility for trauma system leadership. There are emergency physicians and nurses in-house to initiate resuscitation and stabilization, with surgical teams on call and promptly available.

• **Level III – Area Trauma Center** - The Level III Trauma Center provides assessment, resuscitation, emergency surgery, and stabilization and, for the most critically injured patients, arranges for transfer to a Level I or Level II trauma center that can provide further definitive care. A general surgeon must be promptly available and the facility must be involved with prevention and have an active outreach program for its referring communities.

• **Level IV – Local Trauma Stabilization Center** - Level IV Trauma Centers are small rural facilities that provide initial evaluation and assessment of injured patients prior to transfer to a larger referral facility.

For more information, you can download a brochure about Trauma Center Certification in Alaska.

Below are documents/links to assist hospitals interested in seeking Trauma Center Designation.

> For the American College of Surgeons, Committee on Trauma (ACSCOT) Level I, II, III verification program visit:
> http://www.facs.org/trauma/verificationhosp.html
>
> For the pre-review questionnaire for Level I, II, and III verification visit:
> http://www.facs.org/trauma/prq.doc
>
> To request for a verification visit from ACSCOT visit:
> http://www.facs.org/trauma/sitevisitapplication1006.doc

source of data through our Alaska Trauma Registry.

Links:

American College of Surgeons is a scientific and educational association of surgeons founded to improve the quality of care for the surgical patient by setting high standards for surgical education and practice. The Committee on Trauma works to improve the care of injured and critically ill patients – before, en route to, and during hospitalization. Their web site has information on trauma center designation and Advanced Trauma Life Support courses.

American Trauma Society is dedicated to the prevention of trauma and improvement of trauma care. The society is a strong advocate for injury care and prevention and have numerous programs.

American College of Emergency Physicians promotes the highest standards of patient care through its advocacy and leadership efforts. Their web site has numerous resources on a variety of topics.

TRAUMA.ORG provides global education, information and communication resources for professionals in trauma and critical care.

Alaska Trauma/EMS List Server

Alaska Trauma/EMS program is pleased to announce the list server that we have developed to disseminate information from the federal and state Trauma/EMS programs. This forum can also be used to improve communication between the facilities and open opportunities for sharing. Please be advised that if you send a message via the list serve it will go to everyone that is a member.

To join this free list, send an e-mail message to:

list.manager@list.state.ak.us

The body of the message should be:

Subscribe ak-trauma

- Level IV Trauma center information
  - Pre-review Questionnaire (Level IV Trauma Center Checklist) [coming soon]
  - Level IV, Desirable and Expected Resources/Services
  - Level IV Request for a verification visit
  - Performance Improvement for Small Rural Hospitals in Alaska
  - Performance Improvements Sample meeting minutes

alaska
brain injury
network

Every 15 seconds someone sustains a traumatic brain injury (TBI) in the U.S.

Thirty years ago, only half of all people with brain injury survived; now 78% survive. This means that many individuals now live with significant disability requiring a full range of services.

Every year the Alaska Department of Health & Social Services reports about 800 traumatic brain injury (TBI) cases resulting in hospitalization or fatality. The Alaska TBI rate is 28% higher than the national average. The TBI rate in rural Alaska is one of the highest in the nation.

It is estimated that at least 10,000 Alaskans are living with brain injury today. The number keeps accumulating. Brain Injury can be a life-long disability

The Alaska Brain Injury Network, Inc. (ABIN) is a non-profit organization dedicated to Alaskans whose lives have been changed by brain injury.

ABIN's Board of Directors represent all regions of Alaska and the extended brain injury community – survivors, family members, service providers, health educators, researchers and those who write laws and policy.

ABIN works with the Alaska Mental Health Trust Authority, Department of Health and Social Services, and partner boards to advocate for policy changes, programs, and facilities to better serve the brain injury population.

ABIN connects survivors and family members with others. Please contact us to learn about brain injury programs in your region.

The goal for every brain injury survivor is the best possible recovery for a fulfilling and productive life. Achieving that goal requires full range of services close to home. This includes...

- Prevention
- Early identification and intervention
- Access to skilled specialists
- Community-based post injury services
- Continuing rehabilitation
- Brain injury support groups and in-state resources

What you can do...

- **Be aware of the fiscal and social burden of brain injury nationally and to the state of Alaska**
- **Become familiar with ABIN Priorities in the Governor's FY09 GF/MH Budget: Brain Injury Training for Providers.**
- **Support the Housing Trust,** www.akhousingtrust.com
- **Join Alaska Brain Matters listserve to meet Alaskans who have been touched by traumatic brain injury.**

ABIN Priorities

In-state rehab facility – many Alaskans are left in a hospital setting because there is no post-acute rehabilitation option in the State. Others are sent out of State. It is time for Alaskans to have treatment for their brain injury. Research shows outcomes improve with quality rehabilitation.

Brain Injury Waiver - recommendations for the current Medicaid waiver system to accommodate the services needed by brain injury survivors: neuropsychological assessment, cognitive and functional therapy, case management, counseling, home modifications, transportation, respite care, and more.

alaska brain injury network

www.alaskabraininjury.net
3745 Community Park Loop, Ste 240
Anchorage, AK 99508
(907) 274-2824

Alaska Brain Injury Network, Inc. helps identify, develop, implement, and sustain needed programs and resources that promote prevention and expand treatment and service delivery to Alaskans who experience TBI and their families.

You KNOW us...

The Public Health Burden of Brain Injury (prevalence)

5.3 million Brain Injuries

5 million persistent Mental Illness
4 million Alzheimer's
3 million Stroke
2 million Epilepsy
900,000 HIV/AIDS
500,000 Cerebral Palsy
400,000 Spinal Cord Injury

Brain injury accounts for more years of lost productivity than any other injury.

The Financial Burden of Brain Injury

- It is estimated that over a lifetime, it can cost between $600,000 and $1,875,000 to care for a survivor of severe TBI.
- Direct medical costs and indirect costs of TBI such as lost productivity totaled an estimated 60 billion dollars in the United States in 2000. *(Centers for Disease Control and Prevention)*
- Every dollar used for brain injury rehabilitation saves up to $35 in future medical costs. (Rhode Island Brain Injury Association)

Prevention is the only cure for Brain Injury

- The three leading causes of brain injury nationally and in Alaska are:
  1) motor vehicle crashes 2) falls and 3) assaults.
- One-third of all TBIs recorded in the Alaska Trauma Registry were alcohol related.
- The use of safety belts is the single most effective measure to prevent traumatic brain injuries.
- Helmets are estimated to be 37% effective in preventing fatal injuries to motorcyclists. *(National Highway Traffic Safety Administration)*
- Bicycle helmets are 85-88 percent effective in mitigating head and brain injuries. Every dollar spent on a bike helmet saves $40 in direct medical costs and other costs to society. *(National Highway Traffic Safety Administration)*
- 60-67% of injured U.S. soldiers sent from Iraq to Walter Reed Army Medical Center have a TBI from blasts, severe falls and motor vehicle accidents. *(United Press International, July 2004).* These soldiers are now returning home to Alaska for continuing treatment and rehabilitation.

Traumatic Brain Injury is a beneficiary group participating in the Alaska Mental Health Trust Authority "You Know Me" Anti-Stigma Campaign.

Alaska Brain Injury Network

Alaska Scorecard and TBI Dashboard – (DRAFT)

DRAFT #1 – May 22, 2008

○ Getting worse ⟺ Not changing ● Improving

	5-year Trend	Current Data	Source
SCORECARD: A "scorecard" provides a snapshot of the status of TBI issues in the State of Alaska			
Traumatic Brain Injury Non-fatal Incidence Rates			
TBI rate per 100,000	●	98.6	[redacted]
Causes			
Falls	○	28.7	[redacted]
Motor Vehicle Transportation Occupant	●	24.7	[redacted]
Assault	●	12.2	[redacted]
ATV	○	6.5	[redacted]
Bicycle	●	4.5	[redacted]
Snowmachine	●	4.4	[redacted]
Pedestrian	●	3.6	[redacted]
Sports	●	1.8	[redacted]
Water Transport	⟺	1.3	[redacted]
Suicide Attempt	●	.8	[redacted]
Gender			
TBI percentage among males		65.4 %	[redacted]
TBI percentage among females	⟺	33.2 %	[redacted]
Ethnicity			
Percentage of TBI population that is Alaska Native		34%	[redacted]
Percentage of TBI population that is White		53%	[redacted]
Percentage of TBI population that is Other; unknown, Pacific Islander, Hispanic, Black, American Indian, Asian		22%	[redacted]
Those at highest risk for hospitalization due to TBI (rate per 100,000)			
Males age 80+		301.3	[redacted]
Females age 80+		217.2	[redacted]
Males age 70-79		215.7	[redacted]
Males age 15-19		200.9	[redacted]
Traumatic Brain Injury Numbers			
TBI hospitalizations/year		640	1.b
TBI deaths/year		150	1.b
Est. TBI-related Emergency Department Visits		2953	2

1 Alaska Trauma Registry 2001-2005 – Non-fatal TBI hospitalizations
1.a Alaska Trauma Registry 1996-2005 – Non-fatal TBI hospitalizations
1.b Alaska Trauma Registry 2006 – Non-fatal TBI hospitalizations
2 HRSA TBI Implementation Grant

Alaska Trauma Registry records those who are hospitalized for more than 24 hours. This does not include the number of people who visit the emergency department and are sent home in the same day. This does not include the number of returning service members with traumatic brain injury.

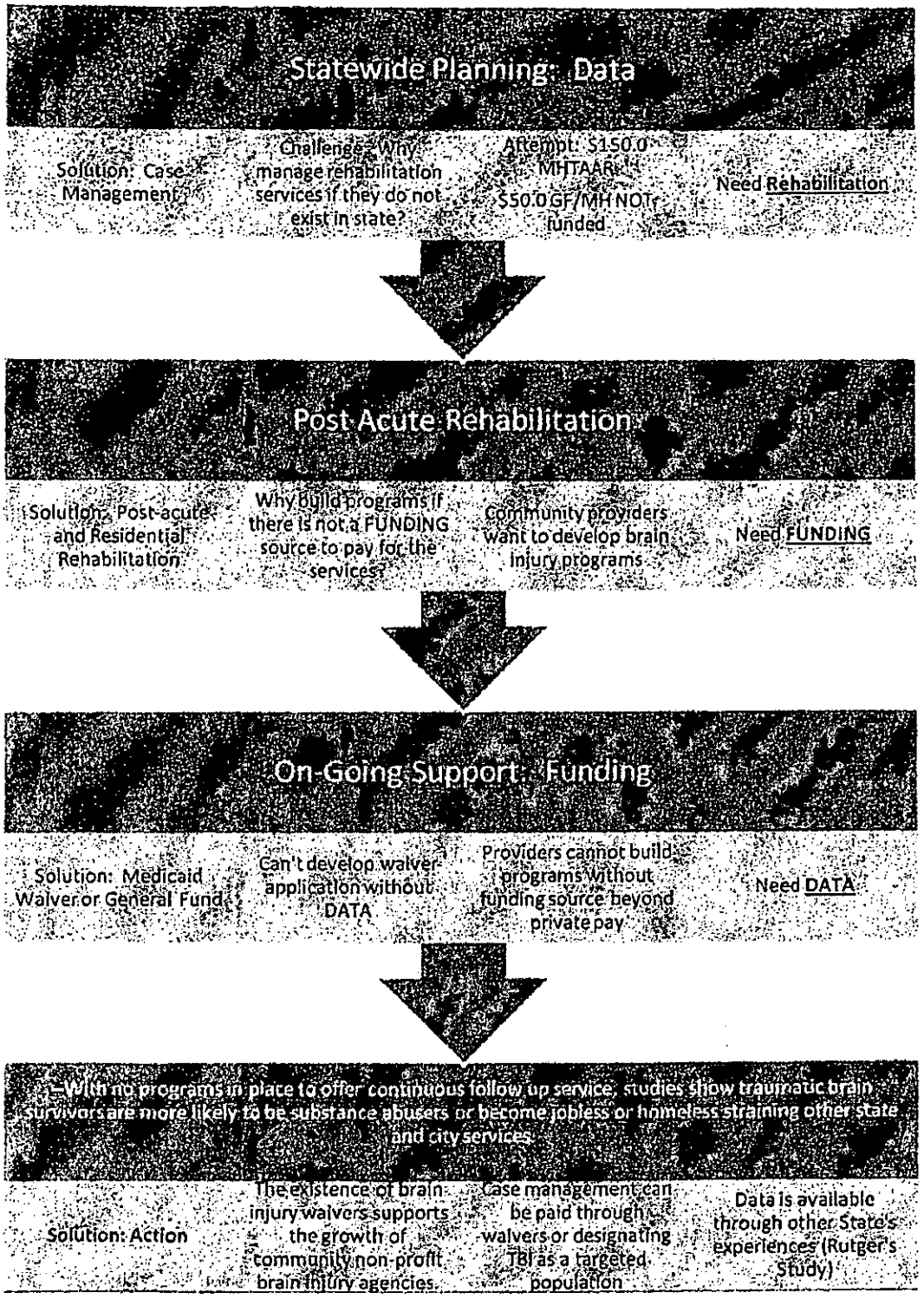
DASHBOARD: A "dashboard" provides a way to see how well an activity is working to affect the TBI population

Getting worse | No change | Improving

	Spot look trend	Current Data	Source
Dashboard: Behavioral Health			
TBI and Mental Health			
Percentage BH clients screening positive for TBI	⇔	32%	3
TBI and Substance Use			
Alcohol-related TBI 100,000		33%	4
TBI and Suicide			
Percentage of suicide victims with history of TBI		32%	4
Dashboard: Education			
Special Education			
Number of children in Special Education statewide with TBI diagnosis (2007)	⇔	66	5
Dashboard: Justice			
Corrections			
Percent of incarcerated Alaskans (adults) who are Trust beneficiaries, including those with cognitive disabilities		42%	6
Dashboard: Employment			
Vocational Rehabilitation			
Number of TBI cases		167	7
Number of TBI cases closed employed		17	7
Number of TBI cases closed with plan for employment		11	7
Average wage at closure		$12.54	7
Dashboard: Providence			
ImPACT Program			
Number of baselines (ImPACT)		57	8
Number of student/athletes seen in program (ImPACT)		25	8
Emergency Department			
Patients given the diagnosis of "head injury" or "concussion in Emergency Department in 2006		547	8
% of TBI-related ED visits that led to hospitalizations		1%	8
% of ED visits that are Pediatric		15%	8
Dashboard: Alaska Brain Injury Network			
TBI Advisory Board			
Est. Board Member Volunteer hours/year	↑	1054	9
Board Member Participation in Quarterly Board Meetings		83%	9
Ex-officio participation in quarterly board meetings		65-80%	9
% of survivors/family members on TBI board		55%	9
% Board Members who give a financial contribution		100%	9
TBI Resource Navigation			
Average new consumer contacts per month	↑	30	9
Average unique visitors/month to ABIN website	↑	750	9
Number of people on Alaska Brain Matters Listserve	↑	100+	9

3 AKAIMS
4 Suicide Follow-back Study
5 http://www.eed.state.ak.us/stats/
6 Trust/DOC Study 07
7 Division of Vocational Rehabilitation (FY07)
8 Providence Neuroservices
9 Alaska Brain Injury Network

For more information view the "10 Year Plan for TBI in Alaska" at www.alaskabraininjury.net

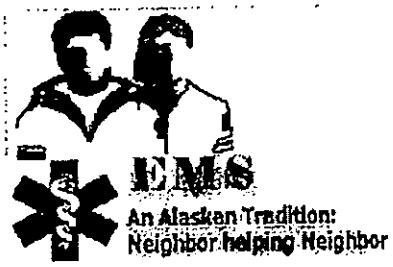


Alaska Trauma Hospitals as of April 2009

Name	Designation	Certification date	Certification due
Alaska Native Medical Center (Anchorage)	Level II	November 2006	2009
Mt. Edgecumbe Hospital (Sitka)	Level IV	April 2007	2010
Yukon-Kuskokwim Delta Regional Hospital (Bethel)	Level IV		2010
Sitka Community Hospital (Sitka)	Level IV	January 2007	2010
Norton Sound Regional Hospital (Nome)	Level IV	October 2006	2010

ALASKA COUNCIL ON EMERGENCY MEDICAL SERVICES

ACEMS
P.O. Box 110616
Juneau, AK 99811-0616
(907) 465-3027



April 9, 2009

Representative Coghill
Juneau, Alaska

Representative Coghill,

Trauma is any bodily injury from an external force. Trauma puts a tremendous burden on families and communities in Alaska. An average of 400 Alaskans die each year from trauma. For every death, 11 people are hospitalized. One in four hospital admissions is uncompensated which puts an additional burden on the State's health care system. HB 168 is offered to assist in this dilemma.

House Bill 168 provides the DHSS Commissioner authority to establish special designations in regulation for varying levels of trauma care so that a 'Certified Trauma Center' would be eligible to recoup expenses as a result of uncompensated care being rendered. The purpose of the fund is to reimburse certified trauma centers in the state for care uncompensated by the person receiving the treatment or by any other source. HB 169 would then set up the uncompensated trauma care fund that would help cover some of the losses suffered by the trauma center rendering the care.

The Alaska Council on EMS seeks your support for a fully functioning trauma system, including funding for the development of trauma centers and legislation addressing the issue of incentives for trauma center designation and uncompensated care of trauma patients. The added benefit of HB 168, we believe, would be an incentive for more hospitals in the state to become 'Certified Trauma Centers' thereby assisting in the development in a state wide trauma care system.

The American College of Surgeons met 11/08 in Anchorage to assess the States trauma system. The passage of HB 168 & 169 would provide support to address some of the areas that were noted in the report.

Thank you for your support of this critical issue.

David Hull

David Hull, Chair
Alaska Council on Emergency Medical Services

cc Bill Hogan, DHSS Commissioner
Dr. Jay Butler, Chief Medical Officer
Tim Bundy, Section Chief IPEMS

Alaska Native
Tribal Health Consortium

Administration · 4000 Ambassador Drive · Anchorage, Alaska 99508 · Phone: (907) 729-1900 · Fax: (907) 729-1901 · www.anthc.org

POSITION PAPER

CONTACT: Valerie Davidson, Senior Director
Legal and Intergovernmental Affairs
Through Pat Jackson, State Liaison for Alaska Native Health
523-0363 – pajackson@anthc.org

DATE: April 8, 2009

RE: HB 168 – State certification and designation of trauma centers and creating the uncompensated trauma care fund
HB 169 – Appropriating $5,000,000 to the uncompensated trauma care fund

POSITION: Support

ANTHC supports HB 168 and HB 169 as important steps in increasing the trauma care capacity in the state.

The Alaska Native Tribal Health Consortium (ANTHC) is a tribally controlled, non-profit statewide tribal health organization formed pursuant to federal law to provide a range of medical and community health services for more than 130,000 Alaska Natives. It is part of the Alaska Tribal Health System (ATHS), which is owned and managed by the 231 federally-recognized tribes in Alaska and by their respective regional health organizations.

ANTHC and Southcentral Foundation jointly manage the Alaska Native Medical Center (ANMC), the tertiary hospital of the ATHS located in Anchorage. ANMC is the only Level II Trauma Center in the Indian Health Service/tribal health system nationally. ANMC is also the only Level II Trauma Center in Alaska. The nearest Level I Trauma Center is in Seattle.

Trauma system development is a public health priority. A comprehensive system of trauma care is an essential part of the public safety net. Regionalized trauma systems based on a network of coordinated Trauma Centers designated at the appropriate level improves health outcomes and reduces costs. ANMC, as the highest level designated Trauma Center in the State of Alaska, is the lynchpin for the state's trauma system, and provides the foundation for continued statewide system development.

Trauma Center designations were created as a way to improve outcomes for patients who face extraordinary medical issues. On balance, early and appropriate medical attention to life-threatening health issues reduces overall length of stay in the hospital and reduced complications for many patients. Without trauma care, the costs of health care for trauma patients will be greater, including trauma patients who are Medicaid eligible.

The cost of providing trauma care at ANMC has more than doubled over the past four years and funding has not kept pace. ANMC's Trauma Center simply cannot be maintained at current revenue levels. If ANMC's Trauma Center designation is discontinued because funding levels have rendered the service unsustainable, the hospital faces reductions in staffing. Diversions of patients to non-tribal providers would increase, and because the federal government reimburses 100% of the cost of services provided for Native clients at Native facilities but a smaller percentage at non-tribal providers, there would be an increased cost to the state's general fund budget.

ANTHC supports HB 168 and HB 169 as important steps by the State to encourage and support appropriate trauma care options for Alaskans. Because we are Alaska's only Level II Trauma Center we recommend removing the language in section (d) on Page 2, Line 11, that limits appropriations to any one facility to 25%.

Thank you for your consideration.

Rynnieva Moss

From: Christopher Clark [cgcalaska@yahoo.com]
Sent: Wednesday, March 11, 2009 8:44 AM
To: Tim Barry; John Bitney; Shannon Devon; Peter Fellman; Linda Hay; Paul Labolle; Karen Lidster; Tom Maher; John Manly; Rynnieva Moss; Jane Pierson; Chris Wyatt
Subject: Daily News editorial: Attracting doctors - Legislature can raise Alaska's stake in competition for docs; Obama right to nix mileage tax

Attracting doctors

Legislature can raise Alaska's stake in competition for docs

Published: March 10th, 2009 06:54 PM
Last Modified: March 10th, 2009 06:54 PM

Alaska's shortage of primary care doctors has been described as grim. A study two years ago found **we needed 400 more doctors to provide the same level of care as is available elsewhere in the country.** One result is that few doctors will accept the low rates paid by Medicare, the government insurance for those 65 and older. **It's a horrible situation for Alaska's senior citizens.**

Two bills introduced during this legislative session would help relieve the shortage of doctors and other health care workers, and both are worth passing.

Senate Bill 18 would increase the number of state-subsidized medical students in each class of the WWAMI program operated through the University of Washington. Alaska WWAMI students spend their first year of study at UAA.

These students offer an excellent return -- according to the Alaska Physician Supply Task Force study in late 2006, half of Alaska WWAMI students end up practicing in the state, and a few WWAMI students from other states join them.

The state raised the number of Alaska WWAMI students in each class to 20 in 2007.

SB 18 would increase the number by a modest amount, to 24. That's the most UAA can accommodate without incurring expensive overhead costs, said Sen. Bill Wielechowski of Anchorage, the bill's sponsor.

Adding the four students would cost the state little to no money the first year. But by the fourth year, when we would have an additional 16 Alaska students in med school, the state cost is estimated at $550,000 per year.

A second bill, SB 139 [by Sen. Donny Olson], calls for the state to pay financial incentives to already-qualified doctors, nurses or other health workers if they take certain jobs in Alaska.

The bill, with a bipartisan group of sponsors, would carry out a plan developed by a group of health care professionals including representatives of the Alaska Primary Care Association and the Alaska State Hospital and Nursing Home Association.

The state would offer financial incentives to as many as 90 workers, from physicians to nurses, to come work in Alaska. Those who take hard-to-fill jobs, or treat a share of uninsured patients or those on Medicare or Medicaid, would get priority.

3/12/2009

Each person would be guaranteed the incentive for three years as long as they kept working here.

The state would either repay part of their student loans or, if the health worker didn't have loans, simply pay them directly. The individual payments would range from $20,000 per year for nurses, physicians assistants and some others, to $35,000 for doctors, pharmacists and dentists, to $47,000 for doctors who accept the hardest-to-fill positions.

The state's cost for three years' worth of incentives would be $7.5 million.

That sum is large enough to cause concern this year, with a big drop in state revenues anticipated.

But consider this: Forty-four of the 50 states already offer financial incentives to lure health workers. Alaska is not competitive for health care jobs, and people are suffering because of it.

BOTTOM LINE: **The Legislature should pass two bills to relieve a critical shortage of health care workers in Alaska.**

Not now

Obama right to nix mileage tax

States and the federal government rightly worry that they'll see less revenue to pay for road work as Americans turn to more fuel-efficient vehicles and future technology takes us further from the internal combustion engine.

One solution is a **mileage tax, whereby vehicles would be equipped with GPS tracking devices and people would be taxed according to the miles they drive rather than the gallons of gasoline they purchase.**

Oregon has already run a pilot program for such a tax, and a federal mileage tax has gained favor in the Democratic Congress despite the opposition of President Obama.

Concerns for revenue and how to pay for road building and maintenance are valid. But the mileage tax is the wrong solution, at least for now.

First, a major shift in transportation tax policy shouldn't be done on the fly in the middle of an economic crisis. There are too many unanswered questions. Among them:

• Is the ability to track people's driving one we want governments to have?

• How does such a tax encourage the use of higher-mileage vehicles? Is the owner of a hybrid getting 35 mpg going to pay the same tax as the owner of a gas-guzzling Hummer?

• Do we really want to charge people more for miles driven during rush hours, a premium that's been suggested in some states?

Raise the gasoline tax if necessary, but let's not be talking about a mileage tax until we've done a lot more research.

BOTTOM LINE: Mileage tax? Maybe down the road. Maybe.

More Funding Needed To Fight Brain Injuries In Alaska

By Corey Allen-Young, CBS 11 News Reporter
KTVA

Posted:02/26/2009 05:34:33 PM AKST

Known as the silent epidemic, traumatic brain injury here in Alaska is the highest in the country. That's why partnerships are being made statewide to come up with solutions. The key word is solutions as leaders are looking for a permanent fix to decreasing traumatic brain injuries in Alaska. Experiencing a traumatic brain injury can change a life forever. "The recovery process after traumatic brain injury is journey that happens daily and it will continue," said Jill Hodges, of the Alaska Brain Injury Network. With 800 Alaskans being hospitalized or dying and over 10,000 Alaskans currently living with traumatic brain injuries, the consequences could be devastating.

"Yeah it will change your life and everybody else's around you," said Frank Box, who experienced a traumatic brain injury. "It can happen to you while you are walking across the street, you can fall and slip on the ice, or if you are playing a sport or riding a bicycle especially without a helmet, you can also suffer traumatic brain injury," said Christie Artuso, who is the director of the Providence Neuroscience Center. "My brother was a such a vibrant, outgoing person, and for this to happen to him is just unreal," said Duain White, whose brother suffered a traumatic brain injury in an ATV accident.

Taking into account that traumatic brain injuries are the leading cause of death and disability among children and young adults in Alaska, the need to be aware of what exactly can cause an injury is crucial. "We can't do that without the prevention needed and the education needed of our population to tell them about TBI (traumatic brain injury) and to also tell them on how to be healthy," said Don Kashevaroff, who is the CEO of the Alaska Native Tribal Health Consortium. "What we don't have in the state of Alaska is an effective rehabilitative program for people who have been afflicted with a traumatic brain injury can be helped with cognitive therapies, thru rehabilitative therapies to return to a normal functioning life," said Artuso.

Thirty years ago, one half of people who experienced a brain injury survived. Now the number has increased to 78 percent. But officials say the problem in our state is that traumatic brain injury survivors are not getting the services needed for life long living. While people who are victims of traumatic brain injuries do receive initial help there are many questions of what happens next for them. And with money in low supply to provide any additional support, officials say other agencies could be feeling the burden.

With over 10,000 Alaskans currently living with traumatic brain injuries, getting additional care and support is badly needed. "We were just released from the hospital and that was it there was no long term therapy, there was no where to go to offer cognitive therapy, long term physical therapy," said White. "We want to help them maintain their relationships, maintain their families, maintain their lifestyles," said Artuso. "What we need are community and governmental support to do that because currently there is no resources."

Adding more resources is what folks are banking on in helping their loved ones live normal functioning lives. "Is that all we can offer him, is that the best he's going to be doing the rest of his life, its very frustrating," said White. "Treatment, rehabilitation services are essential, they are the key to recovery and sometimes eventual abilities for our brothers or sisters, and family members," said Hodges.With no programs in place to offer continuous follow up service, studies show traumatic brain survivors are more likely to be substance abusers or become jobless or homeless straining other state and city services.

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2
TRAUMA FACT SHEET

Alaska Statewide Trauma System

Fact Sheet

What is Trauma?
Trauma is any bodily injury from external force. Although many people think of trauma as "accidents", it is better thought of as a disease. Like heart disease and cancer, trauma has identifiable causes and risk factors; and like these conditions, prevention is the best strategy. However, even with the best prevention efforts we still need to be able to take care of the seriously injured. We need to show the same commitment that we brought to cardiac and cancer treatment to trauma care. The seriously injured require timely diagnosis and treatment by health care professionals who are appropriately trained and provided with the necessary resources to reduce the risk of death or permanent disability.

Impact of Trauma in Alaska
Trauma is a tremendous burden on families and communities. In the 1990s, nearly 5,000 Alaskans died from trauma.

- For Alaskans, ages 1 to 44, trauma is the leading cause of death.
- On average, more than 400 Alaskans die from trauma each year. For every injury death, eleven people are hospitalized for trauma-related injuries. For every trauma death that occurs in the hospital, there are an estimated 3 people discharged with permanent disability.
- On average, more than 800 Alaskans are hospitalized each year for central nervous system injury (spinal cord and brain injuries).
- In 2004, motor vehicles were the leading cause of injury death (117), followed by firearm-related injuries (116).
- In 2004, the economic cost of hospital stay alone for trauma patients in Alaska was estimated at over $73 million. One in four hospital admissions were uncompensated.

Years of Potential Life Lost to Trauma
Death from trauma is tragic at any age. Society's loss is especially great because so many young people die from trauma. The impact can be measured in "years of potential life lost:" the number of years between early death from injury and the average age of death at age 70. Using years of potential life lost, trauma is the leading cause of potential life lost for all Alaskans followed by cancer and heart disease.

What is a Trauma System?
A trauma system is a predetermined, organized, multidisciplinary response to managing the care and treatment of severely injured people. It spans the full spectrum of care; from prevention and emergency care to recovery and rehabilitation. Best practice standards guide each stage of care to ensure that injured patients are promptly transported to and treated at facilities appropriate to their severity of injury and that they receive optimal care at each stage of their treatment.

A statewide trauma system also provides a framework for disaster preparedness and response. As part of its activities, a trauma system coordinates and monitors the

movement and care of severely injured people. Ideally, the trauma system identifies the needs and resources available at any moment and responds to insure optimal care.

Why Have a Trauma System?
For a severely injured person, the time between an injury and receiving definitive care is the most important predictor of survival—the "golden hour." The chance of survival diminishes with time, despite of the availability of resources and modern technology. A trauma system enhances the chance of survival by making sure that patients are brought to the most appropriate facility in the most efficient manner and that they receive optimal care each step of the way. Trauma systems benefit everybody regardless of income, race, party affiliation or locale. States with mature, comprehensive statewide trauma systems have experienced:

- A 9 percent decrease in motor vehicle crash deaths.
- A 15-20 percent increase in the survival rates of seriously injured patients.
- An increase in productive working years.
- An improvement in statewide disaster preparedness.

Disaster Preparedness
Trauma systems play a vital role in the community response to natural disasters or manmade incidents. Despite concerns over bioterrorism, experience has shown that the vast majority of terrorist attacks will involve explosive devices. We also do know that Alaska will experience major earthquakes in the future. A functioning trauma system is the framework for developing an organized coherent response to these incidents

Alaska's Trauma System
In 1990, state authority for designating trauma centers was created in Alaska. Under this statute hospital participation is entirely voluntary. Criteria were established and the process for designation at Levels I-IV outlined. Since the original legislation there have been only three hospitals that have been designated by the state. One level II and four level IV centers. Clearly to fully realize the benefits of a trauma system more widespread participation is needed. Alaska's trauma system is ideally an inclusive system, recognizing the vital role that rural communities, hospitals and health care professionals play in the care and management of the trauma patient. Wide-scale involvement is critical to get optimal outcomes for the seriously injured.

Review of Alaska Trauma Care by the American College of Surgeons November 2008

The Alaska Department of Health and Social Services (DHSS) recently contracted with the Committee on Trauma of the American College of Surgeons to review trauma care in Alaska. The full report is available on the DHSS website (www.chems.alaska.gov). It notes our strengths and weaknesses and makes recommendations for improving trauma care in our state.

Strengths include: well established injury prevention programs; extensive and creative networks for ground and air medical transport; medical subspecialty availability at three

Anchorage hospitals; and a good relationship with Harborview Medical Center (Level I trauma center) in Seattle.

Deficiencies include the lack of an additional Level II trauma center in Anchorage and the existence of two patterns of trauma care, one for Alaska natives that follows national standards and one for the rest of the state. The review team members noted that among the nontribal hospitals " few of the facilities serving the majority population have made a similar commitment to achieving nationally recognized standards of trauma care". They also noted that there is no statewide trauma plan and no incentive or requirements for hospitals to participate in the system. Additionally, there are few resources at the state level for trauma system management and coordination. Perhaps as important as any of the above, they noted that there seemed to be very little public awareness of trauma system issues.

The review team made 15 priority recommendations. Several involve better organization of state resources and development of a comprehensive statewide trauma plan. The most sweeping recommendation was that all acute care hospitals be required to become designated trauma centers at a level appropriate to their resources and size within two years. They further stated that there should be a second level II trauma center in Anchorage as soon as possible. In addition, an assessment of pediatric trauma care needs should be completed with the goal of developing at least one pediatric trauma center of excellence.

The Alaska Trauma Systems Review Committee oversees the statewide trauma system in Alaska. The system addresses four primary components: trauma hospital designation criteria; trauma registry (monitors system performance and provides feedback for improvement); EMS/pre-hospital triage and transport guidelines; and inter-facility (hospital to hospital) transfer guidelines.

Where To Go From Here

- Increased hospital participation is necessary for the statewide trauma system to function optimally.
- There need to be incentives for hospitals to provide the staff and resources required for trauma center designation.
- Legislation to cover the cost of uncompensated trauma care and to limit the medical
  liability for care given at designated trauma centers are two incentives that have been successful in other states.

  House Bills 168 and 169 have been introduced by John Coghill to encourage hospitals to participate in the trauma system by covering some of the cost of uncompensated trauma care when it is given at designated trauma centers.

The goal of the statewide trauma system is to see every hospital in Alaska designated at an appropriate level.

- *Surveys show that the general public overwhelmingly supports having a hospital in their community that is prepared for and capable of effectively managing a seriously injured patient—and are willing to pay for it!

*2005 Harris Interactive poll, "The American Public's Views of and Support for Trauma Systems: A Congressional Briefing."

Alaska Statewide Trauma System contact information:

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Chair Trauma Systems Review Committee

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3

TRAUMA CARE IN ALASKA 2009 SLIDES

TRAUMA CARE IN ALASKA 2010

Goals

- Trauma as a public health problem here in the US and Alaska.
- Trauma systems- Treating the severely injured.
- American College of Surgeons Review: Trauma Care in Alaska.
- The Future.

Introduction

"If a disease were killing our children at the rate unintentional injuries are, the public would be outraged and demand that this killer be stopped."

C. Everett Koop, MD, ScDC, SCD
Former US Surgeon General
Former Honorary Chairman, The National Safekids Campaign

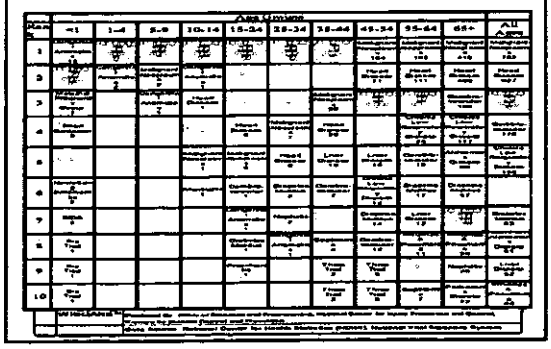
Introduction

- Injury is a major public health problem
  - Leading cause of death in 1st 4 decades of life
  - Leading cause of loss of productivity
- Despite the magnitude little public focus
- The "neglected disease" since 1966
- Significant progress in individual patient care
- Trauma systems shown to save lives

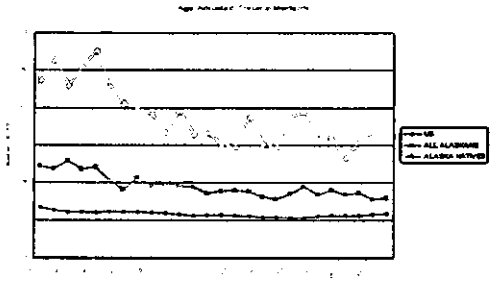
Trauma in Alaska

- Second highest trauma mortality in the US
- Leading cause of death age 1-44.
- 400-500 alaskans die each year.
- Over 5000 hospital admissions
- Over 1000 with permanent disability.

All Cause Mortality Alaska



Trauma Mortality in Alaska



Trauma in Alaska

- Motor vehicle crashes leading cause of death.
- Firearm related injuries, second.
- 2004 hospital cost for Alaska trauma patients over $73 million.
- ~ 25% over trauma admissions uncompensated.

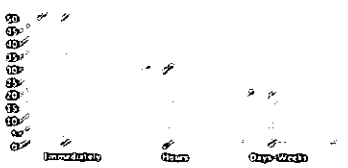
Trauma Systems

- Wounded in the remote jungle or rice paddy of Vietnam, an American citizen has a better chance for quick definitive surgical care by board certified specialists than were he hit on a highway near his home in the continental United States. Even if he were struck immediately outside the emergency room of most United States hospitals rarely would he be given such prompt, expert operative care as routinely is furnished from the site of combat wounding in Vietnam."
- Eiseman, Journal of Trauma, 1967

Trauma Systems

◇A trauma system consists of hospitals, personnel, and public service agencies with a preplanned response to caring for the injured patient.

Death from Trauma



Trauma Systems: Military Experience

- "The only victor in war is medicine"
  Mayo brothers WWII

Vietnam and Iraq development of systems of care to ensure optimal care from injury to rehab.

Trauma Systems

"Getting the right patient to the right place in the right amount of time."

- ◇Facilities (trauma center designation)
- ◇Personnel (training)
- ◇Patient transport
- ◇Triage

Facilities-Trauma Centers

- Level I -Definitive subspecialty care, research.
- Level II – Definitive subspecialty care, surgery, orthopedics, neurosurgery.
- Level III- General surgery, orthopedics, no neurosurgery
- Level IV- Stabilization, limited or no surgical capacity

Trained Personnel

- ATLS
- TNCC
- PHTLS
- ETT first responders
- RTTDC

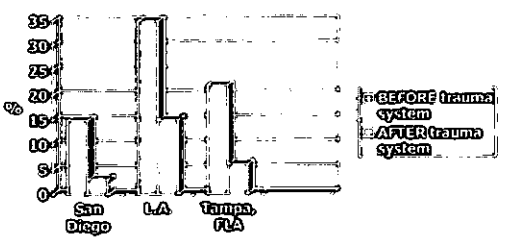
Transport and triage

- Guidelines that take into account local resources and capabilities.
- Head Injury Guidelines.
- Burn Triage.

Trauma Systems

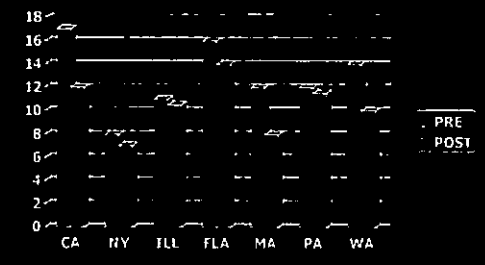
- 15-25% improvement in survival of the seriously injured.
- Increase productive working years
- Improve statewide disaster preparedness.
- Inclusive systems -best

Preventable Deaths: The impact of trauma systems



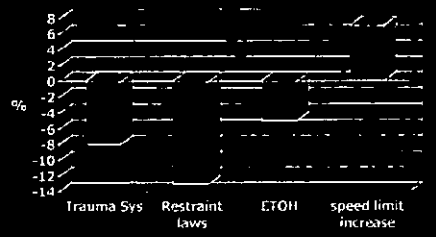
Trauma Systems & crash mortality

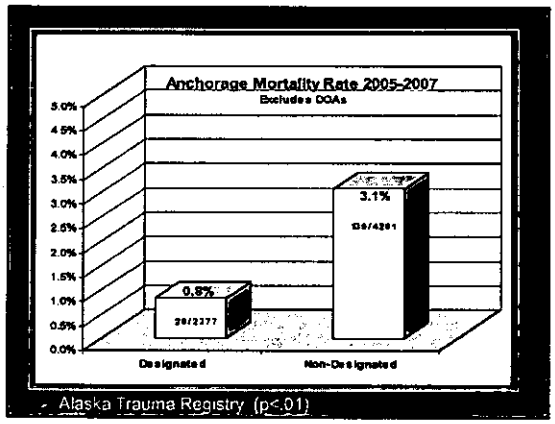
Nathens et.al. 2000

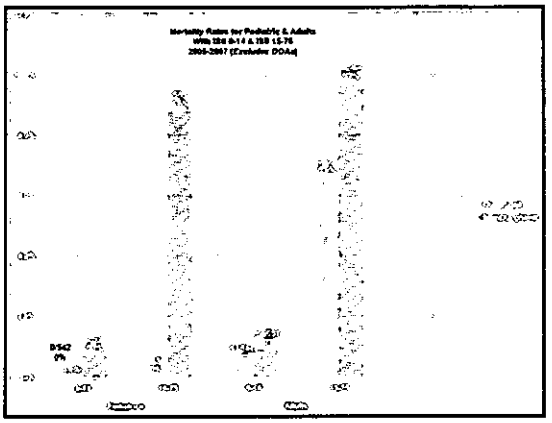


Trauma systems & crash mortality

Nathens et.al. 2000





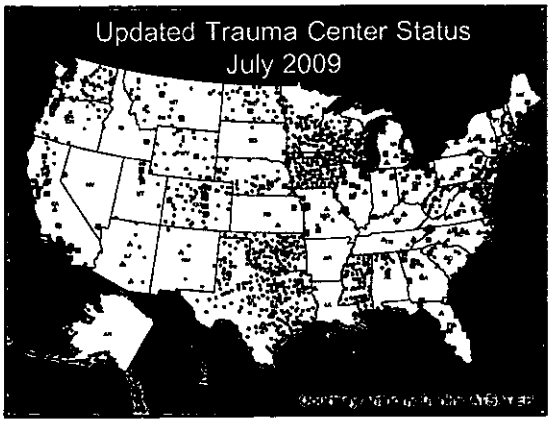


Trauma Center Growth Over Time

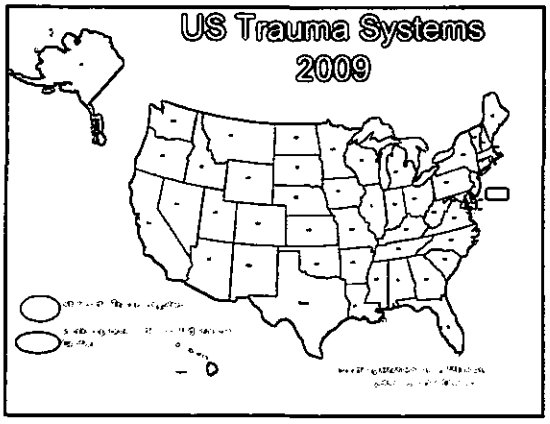
	1991	2002	2009
Level I	165	190	199
Level II	209	263	269
Level III	76	251	362
Level IV-V	21	450	748
Total	471	1,154	1,578
Pediatric Only			41

Courtesy Anthony Carlini ATS TIEP

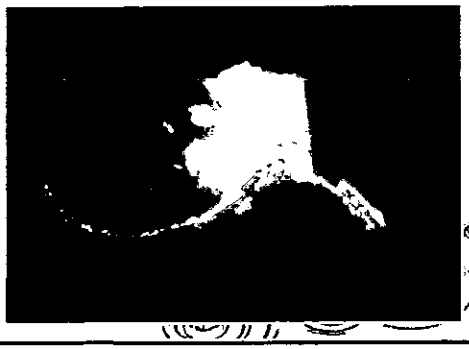
Updated Trauma Center Status July 2009



US Trauma Systems 2009



ALASKA The Great Land



Trauma Systems and the Public

- 2004 Harris poll to assess public Knowledge and perceptions on trauma and trauma care.
- Most Americans are not aware that injury is the leading cause of death for children, youth, and adults under the age of 34.

Harris Poll

- After hearing a description of a trauma center, almost all Americans feel it is extremely or very important to be treated at a trauma center in the event of a life-threatening injury.

Harris Poll

- Almost 9 out of 10 of Americans feel that having a trauma center nearby is as important as or more important than having a Fire Department or Police Department.

Harris Poll

- At the time of the survey although 75% thought there was a trauma system where they lived only about 20% actually lived in an area covered by a trauma system.
- Nearly all Americans *believe* that if they had a serious or life-threatening injury, they *would* be taken to the hospital that is best equipped to handle their specific injury in less than 1 hour.

Harris Survey- Conclusions

- The majority of the public thinks it is important to have a trauma system. (It is a nonpartisan issue.)
- Most people think they have it already.
- Many who think they are covered by a regional system are not.

Alaska Trauma System

- 1993 statute- EMS authority for designating trauma centers created.
- Hospital participation voluntary.
- Standards for trauma center designation follow American College of Surgeons criteria.

Alaska Trauma System

Verification of compliance by outside reviewers for Level I, II, III

◇In-state review for Level IV

Current Status -16 Years Later

- 24 hospitals in Alaska

Verified / Certified

- 1 Level II ANMC
- 4 Level IV centers- NSH -MEH - YKHC -SCH
- 9 other facilities with reviews or consultations.

Non-Verified

- 2 centers providing care for multiple trauma patients
- 6 centers that provide surgical capabilities
- 2 military hospitals

Alaska Trauma Facilities

- Alaska -Only state without a designated Level I/II trauma center that serves the majority of the population.
- Anchorage is the largest city in the US without a designated Level I/II center for the majority of the population.

Insanity

"Insanity is doing the same thing in the same way and expecting a different outcome"

- Old Chinese Proverb

State of Alaska DHSS
Trauma System Consultation
November 2-5 2008

ACS-COT Site Visit Team

- Reginald A Burton, MD FACS — Team Leader, Trauma Surgeon
- Jane Ball, RN, DrPH — ACS Consultant
- Samir V Sabhey, MD FACS — Trauma Surgeon
- Holly Michaels — State Program Specialist
- Drexel Pell, CEM — State EMS Director
- Nels Sandal, PhDc, REMT-B — ACS Consultant
- James D Upchurch, MD — Emergency Physician

Objective

- To help promote a sustainable effort in the graduated development of an inclusive trauma system for Alaska
- Multidisciplinary review of the trauma system
- 17 states have been reviewed

Executive Summary

Advantages & Assets

- Committed individuals who use their time and expertise every day to serve Alaska citizens
- Extensive networks for transport
- 3 large medical centers with extensive subspecialty expertise within the state
- Large Level I trauma center in Seattle which freely accepts adult and pediatric trauma patients

Advantages & Assets

- One center maintains ACS Level II verification standards and others have obtained consultations and are working toward verification.
- Alaska Trauma Registry- all 24 acute care hospitals provide data.
- Injury prevention activities are well established.
- Initial efforts at legislative change.

Challenges and Vulnerabilities

- No trauma system plan
- Geography / Weather / Remote and isolated communities
- No standards for scene trauma triage or trauma inter-facility transfers
- Trauma system issues have limited visibility within state government.

Challenges and Vulnerabilities

Public not aware of trauma system issues.

Limited human resources.

Few incentives for hospitals to participate.

No statewide evaluation of system performance.

Trauma Care in Alaska 2009

- "There are two healthcare systems for injured patients. One for Alaska natives that adheres to national standards and another for the majority of the population"

Executive Summary

- "Several Alaska Native facilities have sought and achieved verification and designation as trauma centers. . . . . To date few of the facilities serving the majority population have made a similar commitment to achieving nationally recognized standards of trauma care."

ACS-CO" Alaska "rauma System Review
"2010

Recommendations: Coalition Building and Community Support

- Develop and disseminate public information about the challenges in providing trauma care and the status of the trauma system in the state for all Alaskans.

Recommendations: Definitive Care Facilities

- Establish, as soon as practical, a second Level II Trauma Center in Anchorage in accordance with ACS criteria to meet the existing volume and acuity demands.
- Mandate participation of all acute care hospitals in the trauma system within a 2 year time frame with trauma center designation appropriate to their capabilities.

Recommendations: Definitive Care Facilities

- Study pediatric trauma care needs and establish one or more in-state centers of excellence in pediatric trauma care.
- Determine a method of providing financial support for hospitals designated/certified by the state as trauma centers to assist with uncompensated care and the cost of readiness

Recommendations: System Coordination and Patient Flow

- Implement standardized prehospital triage and trauma activation protocols customized to the three response areas (Anchorage, Southeast, and the bush).

Recommendations: Financing

- Provide state funding to hire a fulltime trauma system manager.
- Determine a method of providing financial support for hospitals designated/certified by the state as trauma centers to assist with uncompensated care and the cost of readiness.

Themes

- You are closer than you think – many of the components are already in place.
- Alaska is a unique environment different from anywhere else
- You have developed innovative solutions to your unique challenges.
- Despite differences amongst stakeholders, all agree with the need for a consensus developed and integrated trauma system.

ACS Recommendations- Actions

- Commitment by DHSS to create a trauma manager position and develop a statewide trauma plan.
- Trauma Systems Review Committee working to develop metrics to measure trauma system performance.
- Legislation to create incentives for facilities to participate.

Alaska Trauma Systems Review Committee

- MDs, nurses, administrative, and prehospital representation
- Oversight- Trauma Registry
  - -Level IV Trauma verification
  - EMS triage and interfacility transfer guidelines
  - -Trauma system performance improvement

Alaska Trauma System: Facility Participation

- Increasing facility participation is essential.
- "Carrots and/or sticks"
- ACS recommends both
- Mandatory participation and payment for uncompensated care.

House and Senate Bills 168 and 169

- Introduced by Representative John Coghill(R) and Senator Bettye Davis(D) March 2009.
- Creates a fund to pay for uncompensated trauma care given at designated trauma centers.

Barriers

Hospital Administration concerns
- Extra cost especially at Level IIs
- Lack of physician support.
- Lack of demand from the community.

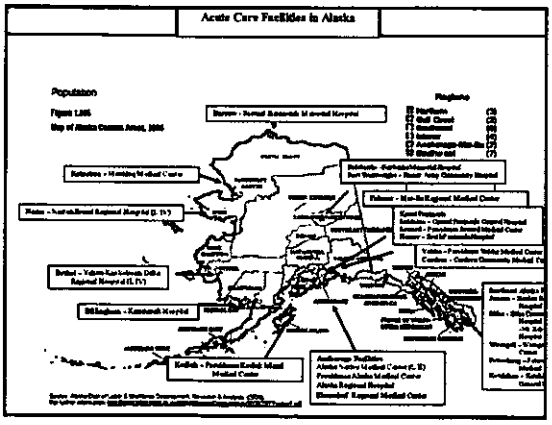
Provider Concerns
- Not needed " we do fine"
- No financial incentive to do it.
- More rules and regulations.

Social Change

- Pearl Harbor: A sudden crisis causes fundamental change.
- The Tipping Point: Pressure builds to an inflection point of change.
- Glacial Erosion: A steady growth or pressure that is hard to resist or ignore.

How can you help?

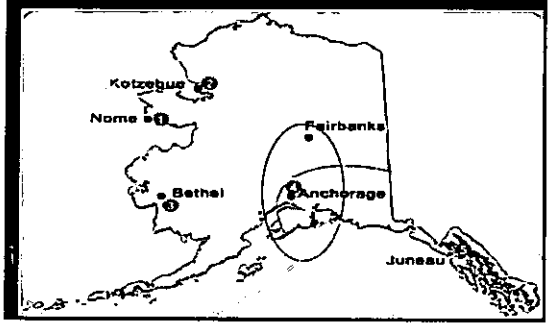
The Tipping Point
- Letters/emails to your legislators H.B. and S. 168 and 169.
- Letters/emails to your your hospital administration
- Ballot initiative?. (ie Arizona)



Vision

- An integrated system that addresses trauma from injury prevention through acute care and rehabilitation.

The Future: Alaska Trauma System(s)

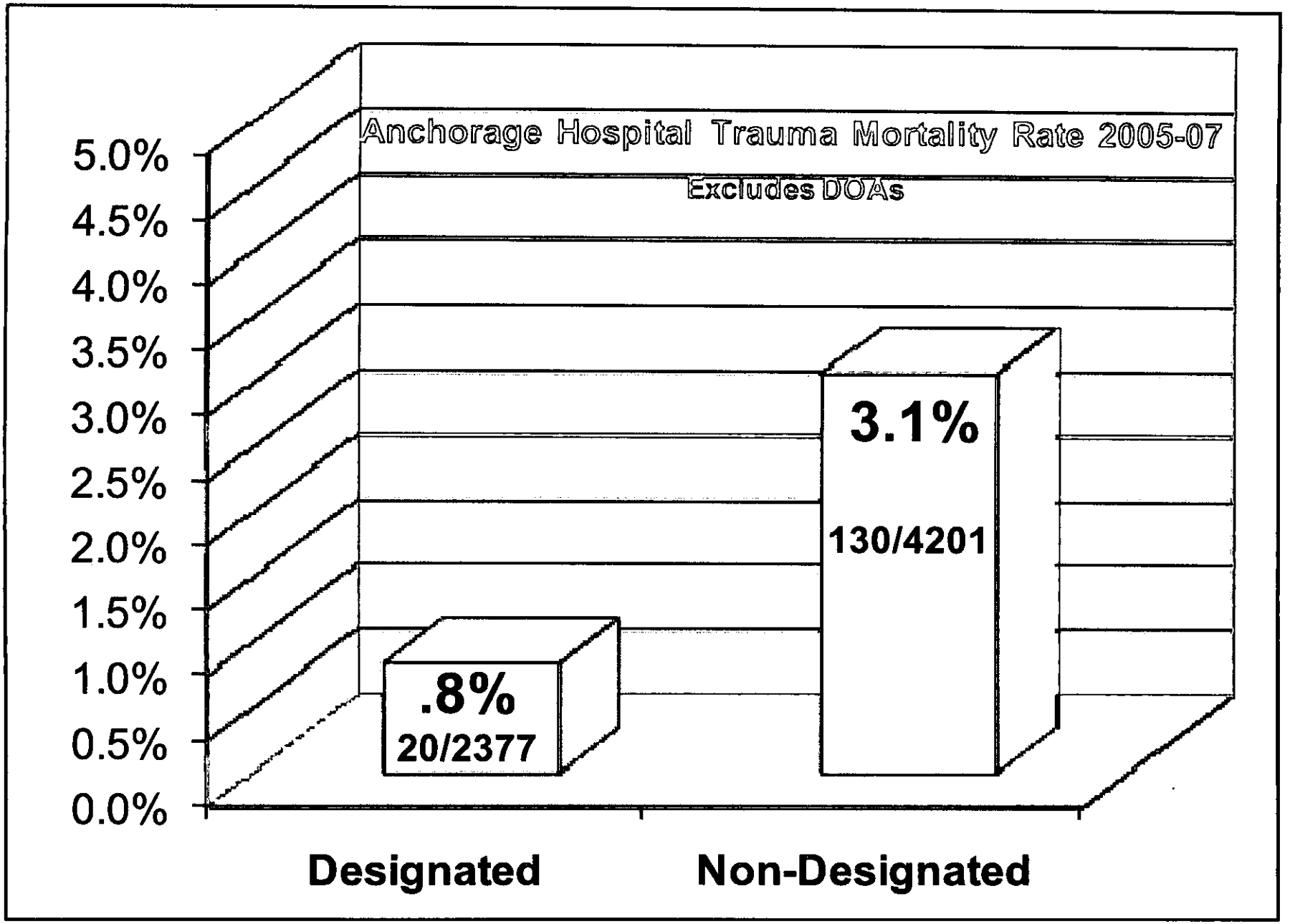


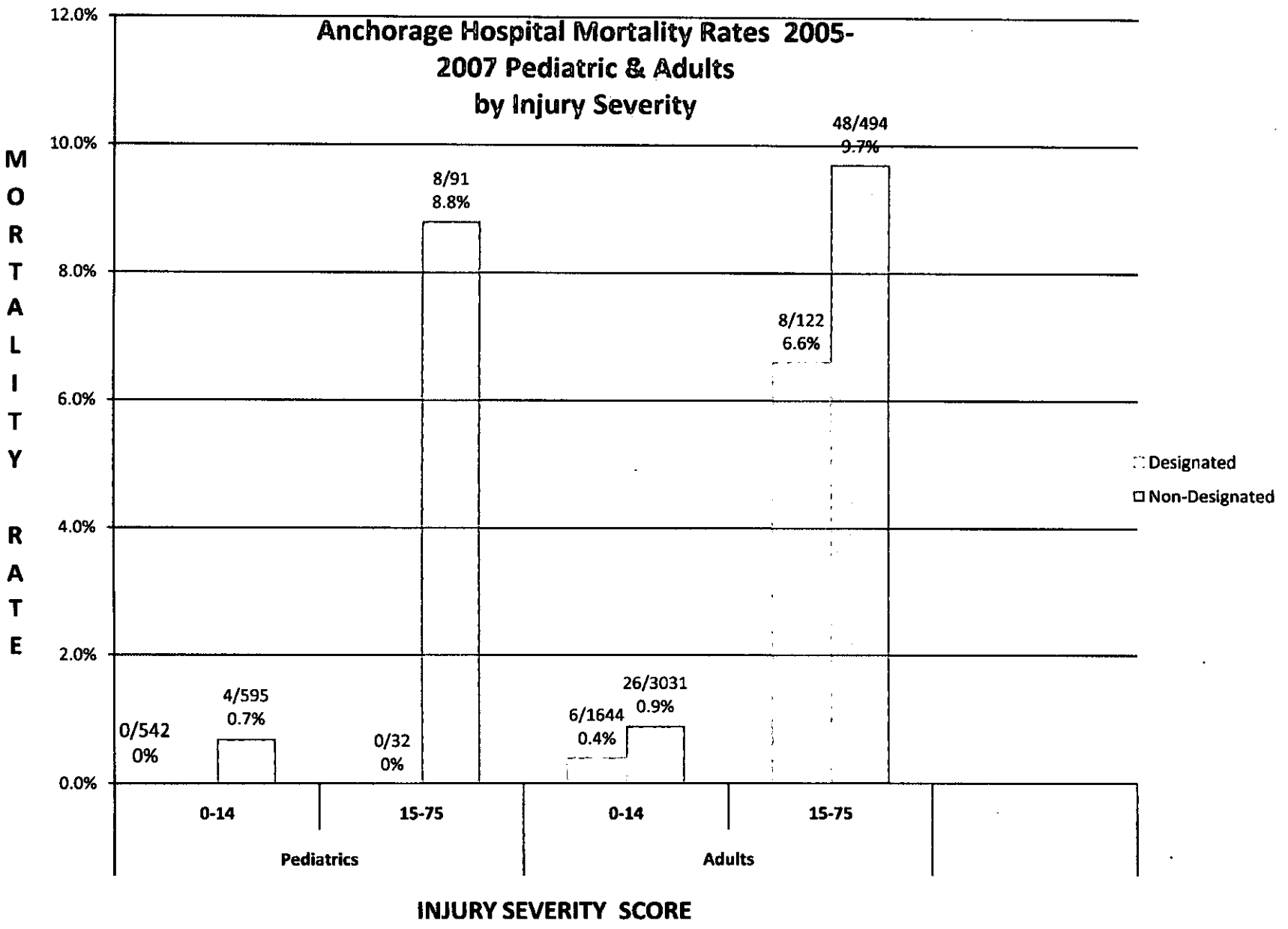
Why is this important?

Because it makes a difference and it is the care you want for your family and neighbors if they are seriously injured.

4

TRAUMA MORTALITY RATES ANCHORAGE


Anchorage Hospital Trauma Mortality Rate 2005-07
Excludes DOAs
5.0%
4.5%
4.0%
3.5%
3.0%
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
.8%
20/2377
3.1%
130/4201
Designated
Non-Designated


Anchorage Hospital Mortality Rates 2005-2007 Pediatric & Adults by Injury Severity
MORTALITY RATE
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
0/542 0%
4/595 0.7%
0/32 0%
8/91 8.8%
6/1644 0.4%
26/3031 0.9%
8/122 6.6%
48/494 9.7%
0-14
15-75
0-14
15-75
Pediatrics
Adults
Designated
Non-Designated
INJURY SEVERITY SCORE

5
EMERGENCY TRAUMA CARE NEEDS IMPROVEMENT IN ALASKA LETTER

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Daily News Opinion

COMPASS: *Other points of view*

Emergency trauma care needs improvement in Alaska

By MARK S. JOHNSON and FRANK SACCO, M.D.

Johnson

You can be confident that you will receive emergency trauma care that compares favorably with care virtually anywhere else in the nation. Right? Maybe, but maybe not.

Sacco

Imagine you and your family driving across Anchorage. As you pass through a major intersection, a drunk driver runs a red light and hits your vehicle broadside. In an instant, you and your passengers face a life or death situation. If you're still conscious, you may think, thank God this happened in Anchorage where we have state of the art emergency medical services.

The Anchorage Fire Department has exceptional ambulance services, staffed with well-trained paramedics. Local hospitals have sophisticated emergency departments staffed 24 hours a day with qualified emergency medicine physicians, nurses and support personnel.

You can be confident that you will receive emergency trauma care that compares favorably with care virtually anywhere else in the nation. Right?

Maybe, but maybe not.

Though Alaskans die from injury at the second highest rate in the U.S., there is no statewide system of trauma care. In Anchorage, only the Alaska Native Medical Center has been verified by the American College of Surgeons and certified by the State of Alaska as a trauma center (Level II). Neither Providence nor Alaska Regional Hospital has achieved this national standard.

Trauma center certification means that a hospital has surgical teams readily available to take care of the most seriously injured patients at all times. Backup teams are available and outcomes are continuously reviewed to improve care.

Serious traumatic injuries can produce internal bleeding in the brain, spinal cord or internal organs. Often, this bleeding can be stopped only by surgeons in hospital operating rooms. Studies have verified the "golden hour of trauma," meaning that critically injured persons have increased chances of survival if treated within that time. Trauma centers, as part of a system of care, have been shown to decrease the mortality of the seriously injured 15 percent to 25 percent. Although rural areas may not meet the golden-hour standard, improvements in the statewide systems have been shown to achieve better outcomes for patients seriously injured in remote areas as well.

The Alaska Department of Health and Social Services recently contracted with the Committee on Trauma of the American College of Surgeons (ACS) to review Alaska's trauma care. That review notes Alaska has excellent injury prevention programs, extensive and creative networks for ground and air medical transport, medical specialists in Anchorage and a good relationship with Harborview Trauma Center (Level I) in Seattle.

Among Alaska's deficiencies: Anchorage does not have another Level II trauma center, so there are two systems of trauma care, one for Alaska Natives that follows national standards and another for non-Natives. The team identified no statewide trauma plan and no incentives or requirements for hospitals to participate in the system. State government devotes few resources to coordinating trauma care, and there seems to be very little public awareness of these issues.

The review team recommended requiring all acute-care hospitals to become designated as trauma centers at a level appropriate to their resources and size within two years (Levels II, III or IV). They recommended getting a second level II trauma center in Anchorage as soon as possible, along with a pediatric trauma center. Currently, due to a shortage of Anchorage surgeons willing to take care of children, some seriously injured non-Native children may need to be treated at the Alaska Native Medical Center.

Representative John Coghill Jr. recently introduced House Bills 168 and 169 to create incentives for hospitals to become trauma centers and to offset some of the cost of uncompensated trauma care. The Department of Health and Social Services should be commended for this comprehensive and impartial review of trauma care in Alaska. We urge Alaskans to support these bills and encourage the legislature and Gov. Palin to carefully consider the recommendations in the ACS report.

We hope the scenario above never happens to you but, if it does, let's make sure that the care we expect for our loved ones is available for all Alaskans when we need it.

Mark S. Johnson, MPA, retired as chief of Community Health and Emergency Medical Services for the State of Alaska in 2004. Frank Sacco, M.D., is chairman of the Alaska Trauma Systems Review Committee. The full report on Alaska's trauma care system is available at www.chems.alaska.gov.

Daily News

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sident & Editor

Larry Persily
Editorial Page Editor

Norman C. Brown
ne Fanning, Editor and Publisher, 1971-1983
ce Fanning, Editor and Publisher, 1967-1971

OPINION

COMPASS: *Points of view from the community*

Alaska needs a better trauma system

By FRANK SACCO and MARK S. JOHNSON

Alaska is much safer than it was a generation ago. From 1980 to 2004, the unintentional injury death rate dropped more than 50 percent. Without this improvement, an additional 300 Alaskans would have died in 2004. However, Alaska's 2004 rate remained 30 percent above the national average.

We are all aware of the terrible toll of cancer and cardiovascular diseases, but the leading cause of death for people younger than 44 is injury. It remains a major cause of death and disability for all age groups. For every death approximately three people are left with permanent disabilities.

As with other diseases, prevention is preferable to treatment. Alaska's dramatic reduction in injury deaths is largely attributable to prevention, including use of child restraints and safety belts, reduced rates of drunken driving, and increased use of personal flotation devices. Though prevention is paramount, we also must be prepared to provide the best possible care for those who become injured.

A trauma system is an organized, state-coordinated effort to deliver the full spectrum of care to injured people. The integration of EMS systems, public safety agencies, air medical services and health care facilities ensures that patients receive the most efficient, effective care possible from time of injury through rehabilitation. Trauma systems have been shown to reduce death from injury by as much as 25 percent and are recognized as an integral part of a state's EMS and disaster response system.

According to a 2004 Harris poll, most people want a comprehensive trauma system in their area. Throughout the United States, 83 percent of those surveyed felt a trauma system was as essential as having a fire department and 80 percent were willing to pay extra for it. Interestingly, though 75 percent thought there was a trauma system in their state, only eight states have fully functioning systems and 15 states have no system.

Sacco

Alaska is blessed with exceptional physicians and quality medical resources, but lack of an organized trauma system means that access to timely, quality care cannot be assured.

Johnson

Where do we stand? In 1993, the Alaska Legislature provided authority to the Department of Health and Social Services to verify and certify trauma centers. The statute does not require, or provide incentives for, hospital participation. It does state that no hospital can represent itself as a trauma center unless certified by the state.

Regulations adopted in 1996 require trauma centers to meet standards developed by the American College of Surgeons. Four levels are recognized, from Level I (highest) to Level IV (trauma stabilization facility). There are adequate medical resources to establish Level II trauma centers in Anchorage. In addition, it is feasible to establish Level III and IV centers throughout the state. Because of long transport times, centers of all levels are essential for improving outcomes.

Since the statute and regulations were enacted, only three of 24 eligible hospitals have successfully completed the verification and certification process. (Alaska Native Medical Center — Level II, Yukon Kuskokwim Regional and Norton Sound Regional Hospitals — Level IV).

Alaska is blessed with exceptional physicians and quality medical resources, but lack of an organized trauma system means that access to timely, quality care cannot be assured. In recent years there have been times when critical specialties such as neurosurgery and vascular surgery have been unavailable for emergencies, necessitating transfer of some critical patients to Seattle.

Here are four steps to improve trauma care in Alaska:

1. Residents need to let legislators know that quality trauma care is important.

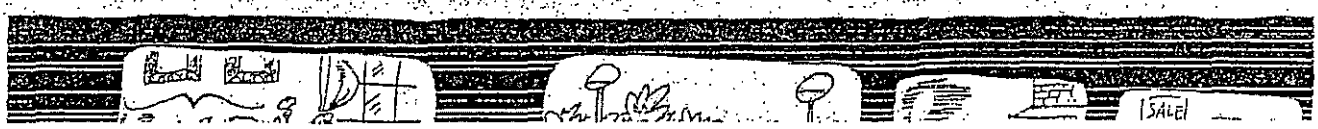
2. The Legislature should put teeth and incentives in the current statute. Successful approaches in other states include requiring trauma center certification at some level as a condition for hospital licensing and limiting medical liability for injuries treated at trauma centers.

3. Tertiary hospitals should ensure availability of critical sub-specialists 24 hours a day, seven days a week.

4. Local EMS and medical providers should organize regional trauma systems and integrate them with the statewide system.

Developing a comprehensive statewide trauma system, and expanding injury prevention efforts, will make Alaska a safer, healthier place to live.

■ Dr. Frank Sacco is chief of surgery at the Alaska Native Medical Center and chairman of the Alaska Chapter of American College of Surgeons Committee on Trauma. Mark S. Johnson was chief of Emergency Medical Services in the Department of Health and Social Services from 1979 until he retired in 2004.



6
AMERCIAN COLLEGE OF SURGEONS RECOMMENDATIONS

Trauma System Consultation
State of Alaska
Anchorage, Alaska

November 2nd -5th , 2008
American College of Surgeons
Committee on Trauma

PRIORITY RECOMMENDATIONS AMERICAN COLLEGE OF SURGEONS ALASKA TRAUMA SYSTEM REVIEW

November 2-5 2008

Definitive Care Facilities

- Establish, as soon as practical, a second Level II Trauma Center in Anchorage in accordance with American College of Surgeons Committee on Trauma (ACS-COT) verification criteria to meet the existing volume and acuity demands.
- Mandate participation of all acute care hospitals in the trauma system within a 2 year time frame with trauma center certification/designation appropriate to their capabilities.
  - Facilities should seek trauma center designation at a level appropriate for their capabilities.
  - Other facilities, such as remote health care clinics, should participate with rapid patient assessment and stabilization and by following guidelines for trauma triage and transfer.
- Study pediatric trauma care needs with the goal of establishing one or more centers of excellence in pediatric trauma care.

Coalition Building and Community Support

- Develop and disseminate public information about the challenges in providing trauma care and the status of the trauma system in the state for Alaskans.

Lead Agency and Human Resources Within the Lead Agency

Develop an appropriate position classification and duty statement for a 1.0 full time equivalent (FTE), permanent trauma system manager that specifies education as a health professional, experience in trauma or emergency health care, and the administrative skills and clinical understanding necessary to support trauma system development.

Trauma System Plan

- Develop a comprehensive trauma system strategic plan consistent with the Health Resources and Services Administration (HRSA) *Model Trauma System Planning and Evaluation* document.

Coalition Building and Community Support

- Develop and disseminate public information about the challenges in providing trauma care and the status of the trauma system in the state for Alaskans.

System Integration

- Ensure that the Injury Prevention and Emergency Medical Services

(IPEMS) Section is engaged in planning with disaster preparedness, emergency management, and public health functions for integration of the trauma system.

Financing

• Provide state funding to hire a fulltime trauma system manager.

Emergency Medical Services

• Develop a central coordination center for statewide air medical resources that will maintain an updated registry of all medical aircraft to include medical services and flight characteristics (e.g., load capacity, instrument rating, landing requirements, etc); and to monitor the availability and location of air resources in near real-time.

System Coordination and Patient Flow

• Implement standardized prehospital triage and trauma activation protocols customized to the three response areas (Anchorage, Southeast, and the bush).

Disaster Preparedness

• Integrate all components of the trauma system into state and local disaster planning activities.

System-wide Evaluation and Quality Assurance

• Develop an initial set of 3-5 statewide system performance indicators from among the list of nine provided in the Pre-Review Questionnaire.

Trauma Management Information Systems

• Ensure that all elements considered essential to system development, evaluation and performance improvement in the State of Alaska are included and functional in the new trauma registry and are consistent with the National Trauma Data Standard definitions.

Statutory Authority and Administrative Rules

System Leadership

• Form an Alaska Technical Advisory Committee (ATAC) and task it with providing the Alaska Council on Emergency Medical Services (ACEMS) with recommendations regarding the following functions: data systems, trauma system planning, system-wide performance improvement and patient safety, trauma education (Advanced Trauma Life Support [ATLS], Trauma Nurse Core Curriculum [TNCC], Prehospital Trauma Life Support [PHTLS], etc), trauma center review and certification, injury prevention and control, public policy, and research.

- Enact legislation to expand the membership of the ACEMS to represent the trauma system and to include the following members appointed as follows:

  - One member, appointed by the Governor, shall represent the Alaska Chapter of the American College of Surgeons Committee on Trauma.
  - One member, appointed by the Governor, shall be a general surgeon who routinely participates in the care of injured patients.
  - One member, appointed by the Governor, shall represent the Alaska Chapter of the American Academy of Pediatrics.
  - One member, appointed by the Alaska Legislature, upon the recommendation of the Speaker of the House of Representatives.
  - One member, appointed by the Alaska Legislature, upon the recommendation of the President of the Senate.

7

TRAUMA SYSTEM CONSULTATION STATE OF ALASKA NOVEMBER 2008

Trauma System Consultation

State of Alaska

Anchorage, Alaska

November 2nd-5th, 2008

American College of Surgeons

Committee on Trauma

A multidisciplinary working group prepared this document based on the consultation visit that took place on November 2nd-5th, 2008 in Anchorage, Alaska and included the following members:

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Trauma Systems Consultation
American College of Surgeons

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Executive Summary

American College of Surgeons
Trauma System Consultation Visit
Alaska Department of Health and Social Services
November 2nd-5th, 2008

The American College of Surgeons, Trauma Systems Evaluation and Planning Committee (TSEPC) is honored to have been invited to the largest state in the nation and to have listened as the state's impassioned health care providers and public servants discussed their success and remaining challenges. We are pleased to provide this report and to encourage you to implement the key recommendations to improve the system of trauma care for all Alaskans and visitors, regardless of where that injury may occur.

It is clear that Alaska recognizes the significance of its injury problem as witnessed both by epidemiological descriptions of fatal and non-fatal injury and by the extensive focus on injury prevention programs across the state. Alaska's current trauma system is a testament to the adage that "necessity is the mother of invention". Clearly the "Last Frontier" is challenged with issues of geography, remoteness, inclement weather and limited health care resources. State and regional leaders, along with a wide ranging cadre of health care providers are to be congratulated for their efforts to achieve the trauma system mantra of "getting the right patient to the right place in the right amount of time". Whether this has involved training a hunting buddy to be an Emergency Trauma Technician, or a local aviation service has figured out how to carry a litter in a small aircraft, or a rural Critical Access Hospital has strived to become certified or designated as a Level IV trauma center, clear progress has been demonstrated toward the betterment of trauma care in Alaska.

The achievements to date have largely been unplanned with limited coordination. As a result, incongruity exists within the current trauma system. Several Alaska Native facilities have sought and achieved verification/designation as trauma centers. These facilities are to be commended for their dedication and commitment to trauma care and the trauma system. To date, few of the facilities serving the majority population have made a similar commitment to achieving nationally recognized standards of trauma care.

The current leadership of the Alaska Department of Health and Social Services recently made a commitment to trauma system development by making this a priority project in the 2009 work plan. This represents an opportunity to begin the process to coordinate, systematize and institutionalize these efforts so that, regardless of where someone is injured in Alaska or what their racial and ethnic heritage might be, all have equal access to optimal trauma care.
Alaska must make a commitment of resources, both fiscal and human, to achieve the recommendations outlined in this document. The consultation team encourages the state to retain the opportunity for system ingenuity when addressing the challenges that Alaska's geography and environment impose when increasing the standardization of trauma system processes.

Advantages and Assets of the Alaska Trauma System

- The lead agency for trauma is identified. Statute designates the Alaska Council on EMS (ACEMS) as an advisory group with responsibility for trauma.
- The state has very committed individuals who use their time and expertise every day to serve Alaska citizens.
- The state has extensive and creative networks for transport.
- Three large medical centers with extensive subspecialty expertise exist within the state.
- A large Level I trauma center in Seattle freely accepts adult and pediatric trauma patients.
- One medical center maintains ACS Level II verification standards and other facilities have obtained consultation and are working toward verification.
- All 24 acute care hospitals provide data to the Alaska trauma registry.
- Injury prevention activities are well established.
- The EMS Goals document categorizes communities by size and remoteness and identifies the resources that should be available for health care and trauma care.
- The state created the Emergency Trauma Technician program to prepare community members to provide initial trauma care.

- Initial efforts have been made to obtain legislative change.

Challenges and Vulnerabilities of the Alaska Trauma System

- The state has many challenges due to geography, weather, and remote and isolated communities.
- No trauma system strategic plan has been developed.
- No standards exist for scene trauma triage or trauma inter-facility transfers.
- Trauma system issues receive limited attention by the Alaska Council on EMS, and thus little visibility within the Department of Health and Social Services.
- The general public is not aware of trauma system issues.
- The state has limited human resources for the provision of trauma care. The lead agency also has limited human resources for trauma system management.
- The ACEMS has no formal trauma representatives.
- There are two healthcare systems for trauma care, one for Native Alaskans and one for other Alaskans.
- Few incentives exist for hospitals to participate in the trauma system.
- No statewide evaluation of system performance is conducted.
- The trauma registry data are not current.

Priority Recommendations Summary

This report contains more than seventy recommendations. Of these, the TSEPC team felt that the following were the most critical to the system's short and long-term success.

Statutory Authority and Administrative Rules

- **Enact legislation to expand the membership of the ACEMS to represent the trauma system and to include the following members appointed as follows:**
    - **One member, appointed by the Governor, shall represent the Alaska Chapter of the American College of Surgeons Committee on Trauma.**
    - **One member, appointed by the Governor, shall be a general surgeon who routinely participates in the care of injured patients.**
    - **One member, appointed by the Governor, shall represent the Alaska Chapter of the American Academy of Pediatrics.**
    - **One member, appointed by the Alaska Legislature, upon the recommendation of the Speaker of the House of Representatives.**
    - **One member, appointed by the Alaska Legislature, upon the recommendation of the President of the Senate.**
- **Require participation of all acute care hospitals in the trauma system within a 2 year time frame.**
    - **Facilities should seek trauma center designation at a level appropriate for their capabilities.**
    - **Other facilities, such as remote health care clinics, should participate with rapid patient assessment and stabilization and by following guidelines for trauma triage and transfer.**

System Leadership

- **Form an Alaska Technical Advisory Committee (ATAC) and task it with providing the Alaska Council on Emergency Medical Services (ACEMS) with recommendations regarding the following functions: data systems, trauma system planning, system-wide performance improvement and patient safety, trauma education (Advanced Trauma Life Support [ATLS], Trauma Nurse Core Curriculum [TNCC], Prehospital Trauma Life Support [PHTLS], etc), trauma center review and certification, injury prevention and control, public policy, and research.**

Coalition Building and Community Support

- **Develop and disseminate public information about the challenges in providing trauma care and the status of the trauma system in the state for Alaskans.**

Lead Agency and Human Resources Within the Lead Agency

Develop an appropriate position classification and duty statement for a 1.0 full time equivalent (FTE), permanent trauma system manager that specifies education as a health professional, experience in trauma or emergency health care, and the administrative skills and clinical understanding necessary to support trauma system development.

Trauma System Plan

- **Develop a comprehensive trauma system strategic plan consistent with the Health Resources and Services Administration (HRSA) *Model Trauma System Planning and Evaluation* document.**

System Integration

- **Ensure that the Injury Prevention and Emergency Medical Services (IPEMS) Section is engaged in planning with disaster preparedness, emergency management, and public health functions for integration of the trauma system.**

Financing

- **Provide state funding to hire a fulltime trauma system manager.**

Emergency Medical Services

- **Develop a central coordination center for statewide air medical resources that will maintain an updated registry of all medical aircraft to include medical services and flight characteristics (e.g., load capacity, instrument rating, landing requirements, etc); and to monitor the availability and location of air resources in near real-time.**

Definitive Care Facilities

- **Establish, as soon as practical, a second Level II Trauma Center in Anchorage in accordance with American College of Surgeons Committee on Trauma (ACS-COT) verification criteria to meet the existing volume and acuity demands.**
- **Mandate participation of all acute care hospitals in the trauma system within a 2 year time frame with trauma center certification/designation appropriate to their capabilities.**
- **Study pediatric trauma care needs with the goal of establishing one or more centers of excellence in pediatric trauma care.**

System Coordination and Patient Flow

- **Implement standardized prehospital triage and trauma activation protocols customized to the three response areas (Anchorage, Southeast, and the bush).**

Disaster Preparedness

- **Integrate all components of the trauma system into state and local disaster planning activities.**

System-wide Evaluation and Quality Assurance

- **Develop an initial set of 3-5 statewide system performance indicators from among the list of nine provided in the Pre-Review Questionnaire.**

Trauma Management Information Systems

- **Ensure that all elements considered essential to system development, evaluation and performance improvement in the State of Alaska are included and functional in the new trauma registry and are consistent with the National Trauma Data Standard definitions.**

Trauma System Assessment

Injury Epidemiology

Purpose and Rationale

Injury epidemiology is concerned with the evaluation of the frequency, rates, and pattern of injury events in a population. Injury pattern refers to the occurrence of injury-related events by time, place, and personal characteristics (for example, demographic factors such as age, race, and sex) and behavior and environmental exposures, and, thus, it provides a relatively simple form of risk-factor assessment.

The descriptive epidemiology of injury among the whole jurisdictional population (geographic area served) within a trauma system should be studied and reported. Injury epidemiology provides the data for public health action and becomes an important link between injury prevention and control and trauma system design and development. Within the trauma system, injury epidemiology has an integral role in describing the root causes of injury and identifying patterns of injury so that public health policy and programs can be implemented. Knowledge of a region's injury epidemiology enables the identification of priorities for directing better allocation of resources, the nature and distribution of injury prevention activities, financing of the system, and health policy initiatives.

The epidemiology of injury is obtained by analyzing data from multiple sources. These sources might include vital statistics, hospital administrative discharge databases, and data from emergency medical services (EMS), emergency departments (EDs), and trauma registries. Motor-vehicle crash data might also prove useful, as would data from the criminal justice system focusing on interpersonal conflict. It is important to assess the burden of injury across specific population groups (for example, children, elderly people and ethnic groups) to ensure that specific needs or risk factors are identified. It is critical to assess rates of injury appropriately and, thus, to identify the appropriate denominator (for example, admissions per 100,000 population). Without such a measure, it becomes difficult to provide valid comparisons across geographic regions and over time.

To establish injury policy and develop an injury prevention and control plan, the trauma system, in conjunction with the state or regional epidemiologist, should complete a risk assessment and gap analysis using all available data. These data allow for an assessment of the "injury health" of the population (community, state, or region) and will allow for the assessment of whether injury prevention programs are available, accessible, effective, and efficient.

An ongoing part of injury epidemiology is public health surveillance. In the case of injury surveillance, the trauma system provides routine and systematic data collection and, along with its partners in public health, uses the data to complete injury analysis, interpretation, and dissemination of the injury information. Public health officials and trauma leaders should use injury surveillance data to describe and monitor injury events and emerging injury trends in their jurisdictions; to identify emerging threats that will call for a reassessment of priorities and/or reallocation of resources; and to assist in the planning, implementation, and evaluation of public health interventions and programs.

OPTIMAL ELEMENTS

I. There is a thorough description of the epidemiology of injury in the system jurisdiction using population-based data and clinical databases. **(B-101)**

a. There is a through description of the epidemiology of injury mortality in the system jurisdiction using population-based data. **(I-101.1)**

b. There is a description of injuries within the trauma system jurisdiction, including the distribution by geographic area, high-risk populations (pediatric, elderly, distinct cultural/ethnic, rural, and others), incidence, prevalence, mechanism, manner, intent, mortality, contributing factors, determinants, morbidity, injury severity (including death), and patient distribution using any or all the following: vital statistics, ED data, EMS data, hospital discharge data, state police data (data from law enforcement agencies), medical examiner data, trauma registry, and other data sources. The description is updated at regular intervals. **(I-101.2)**
Note: Injury severity should be determined through the consistent and system-wide application of one of the existing injury scoring methods, for example, Injury Severity Score (ISS).

c. There is comparison of injury mortality using local, regional, statewide, and national data. **(I-101.3)**

d. Collaboration exists among EMS, public health officials, and trauma system leaders to complete injury risk assessments. **(I-101.4)**

e. The trauma system works with EMS and public health agencies to identify special at-risk populations. **(I-101.7)**

II. Collected data are used to evaluate system performance and to develop public policy. **(B-205)**

a. Injury prevention programs use trauma management information system data to develop intervention strategies. **(I-205.4)**

III. The trauma, public health, and emergency preparedness systems are closely linked. **(B-208)**

a. The trauma system and the public health system have established linkages, including programs with an emphasis on population based public health surveillance and evaluation for acute and chronic traumatic injury and injury prevention. **(I-208.1)**

IV. The jurisdictional lead agency, in cooperation with the other agencies and organizations, uses analytic tools to monitor the performance of population based prevention and trauma care services. **(B-304)**

a. The lead agency, along with partner organizations, prepares annual reports on the status on injury prevention and trauma care in the state, regional, or local areas. **(I-304.1)**

b. The trauma system management information system database is available for routine public health surveillance. There is concurrent access to the databases (ED, trauma, prehospital, medical examiner, and public health epidemiology) for the purpose of routine surveillance and monitoring of health status that occurs regularly and is a shared responsibility. **(I-304.2)**

CURRENT STATUS

Injury is the leading cause of death for Native Alaskans of all ages. Injury is the third leading cause of death for all Alaskans. Like the remainder of the United States, injury is the leading cause of death for the population between 1 and 44 years of age. Leading mechanisms for unintentional injury include the following: motor vehicle crash, falls, airplane crash, fire, all terrain vehicles, snow machine, and firearms. Suicide is a leading cause of injury death for ages 15 to 64 years. Injury mortality is significantly higher in Alaska than in the remainder of the United States where injury is the fifth leading cause of death; however it was reported that the state's injury mortality rate has decreased significantly over the last 30 years.

Healthy Alaskans 2010 describes significant injury prevention objectives for the state, with indicators identified for unintentional injury, occupational fatalities, attempted suicide, nonfatal, hospitalized traumatic brain injury, prenatal physical abuse, population using seatbelts, and households keeping firearms locked and loaded. A strategic plan for addressing these injury prevention objectives was not identified.

A dedicated staff working on epidemiology is assigned to the Department of Health and Social Services (DHSS) Injury Prevention and EMS (IPEMS) Section to coordinate the data analysis for various injury focus areas. Additionally, the Native Alaska Epidemiology Center analyzes data related to injury among the native population. A report on Native Alaskan injury morbidity and mortality was published in 2008.

Access to numerous population-based databases (e.g., vital statistics, fatal analysis reporting system, public safety information system, civilian fire fatality statistics, uniform crime reporting, medical examiner case database, and hospital discharge data system) are readily available for study of the injury problem.

Funding from grants and other state agencies has been obtained and creatively used to support injury surveillance. The state has many population-based injury databases used to describe the injury problem. Numerous injury surveillance activities are ongoing, such as the violent deaths reporting, occupational injuries, motor vehicle crashes, and traumatic brain injuries. The Alaska trauma registry which has data from all 24 acute care hospitals has been used extensively to describe the patterns of injury in the state.

The state had a State and Territorial Injury Prevention Directors Association (STIPDA) assessment conducted in 2003. Work was reported to be still in progress to address many of the recommendations included in the report.

The state has a wealth of data about the injury problem. Primary injury prevention has been the priority focus of information shared with the public and members of the injury coalition. The data have been used to compete successfully for numerous federal grants and state agency projects.

The state website has fairly recent information and reports about injury trends for selected injuries, particularly regarding injury mechanisms for which the state has grant funding. Several publications were reported to be in draft stage related to grant funded activities, but no general description of the injury problem in the state has been published since *Healthy Alaskans 2010*.

No apparent linkage has been made between injury prevention and injury control, which would integrate secondary and tertiary prevention (or the care provided after the patient is injured) in the injury epidemiology focus. Alaskans have not been informed about the injury problem, its relationship to trauma care, and the need for a trauma system.

RECOMMENDATIONS

- Develop fact sheets for public education regarding injuries that require hospitalization and a trauma system.
- Expand the focus of injury epidemiology to report on trauma patient outcomes and the relationship to the trauma system.

Purpose and Rationale

In the absence of validated national benchmarks, or norms, the benchmarks, indicators and scoring (BIS) process included in the Health Resources and Services Administration's *Model Trauma System Planning and Evaluation* document provides a tool for each trauma system to define its system-specific health status benchmarks and performance indicators and to use a variety of community health and public health interventions to improve the community's health status. The tool also addresses reducing the burden of injury as a community-wide public health problem, not strictly as a trauma patient care issue.

This BIS tool provides the instrument and process for a relatively objective state and sub-state (regional) trauma system self-assessment. The BIS process allows for the use of state, regional, and local data and assets to drive consensus responses to the BIS. It is essential that the BIS process be completed by a multidisciplinary stakeholder group, most often the equivalent of a state trauma advisory committee. The BIS process can help focus the discussion on various system strengths and weaknesses, can be used to set goals or benchmarks, and provides the opportunity to target often limited resources and energies to the areas identified as most critical during the consensus process. The BIS process is useful to develop a snapshot of any given system at a moment in time. However, its true usefulness is in repeated assessments that reveal progress toward achieving various benchmarks identified in the previous application of the BIS. This process further permits the trauma system to refine goals to be attained before future reassessments using the tool.

OPTIMAL ELEMENT

I. Assurance to constituents that services necessary to achieve agreed-on goals are provided by encouraging actions of others (public or private), requiring action through regulation, or providing services directly. **(B-300)**

CURRENT STATUS

In early 2007, the Benchmark, Indicators and Scoring (BIS) document from the *Model Trauma System Planning and Evaluation* document was distributed to the Trauma System Review Committee (TSRC). Seven of the sixteen members completed the BIS scoring. Results were compiled and means were calculated for each indicator. Those summary scores were presented to the TSRC at their May, 2007, meeting. The TSRC selected benchmarks 205, 206 and 208 for improvement over the succeeding year.

Specifically, the TSRC identified three tactics to improve scores for identified benchmarks. These tactics included:

1. Select three measures of patient care that can be reviewed by the committee.
2. Compare and contrast transfers from designated Level IV facilities with those from non-designated facilities.
3. Review deaths in transport and deaths within 24 hours of admission.

When queried about the status of these tactical objectives, the TSRC members noted that little progress has been made in completing those processes. Initial data were reviewed from the state trauma registry to begin the process. However, the consensus was that the data needed additional cleaning, so the project was placed on hold and has not been revisited.

Those who had participated in the BIS review relayed some frustration about the process, stating that they did not have sufficient information to answer each of the indicators. Other states that have completed the BIS process in the same individual process have had similar experiences; however, when states have completed the BIS in a facilitated group process, individuals from across the trauma system spectrum learn a great deal about other areas of the trauma system. These facilitated processes have been conducted in many different formats, including audio teleconferencing, segmentation of the BIS by section, and in face-to-face retreats.

When participants were asked about whether the BIS might be revisited, little enthusiasm was expressed for undertaking the process, probably due to the frustration associated with the initial process and the low perceived value of the outcome.

RECOMMENDATIONS

- Select and complete one of the three tactical objectives identified in the May, 2007, TSRC meeting.
- Secure funding to support a facilitated trauma system assessment utilizing the Benchmark, Indicators and Scoring (BIS) process with the newly formed Alaska Trauma Advisory Committee (ATAC) and other trauma system stakeholders and state partners.
- Repeat the BIS process at regular intervals (e.g., every two years) as a means of establishing and monitoring system benchmarks

Trauma System Policy Development

Statutory Authority and Administrative Rules

Purpose and Rationale

Reducing morbidity and mortality due to injury is the measure of success of a trauma system. A key element to this success is having the legal authority necessary to improve and enhance care of injured people through comprehensive legislation and through implementing regulations and administrative code, including the ability to regularly update laws, policies, procedures, and protocols. In the context of the trauma system, comprehensive legislation means the statutes, regulations, or administrative codes necessary to meet or exceed a predescribed set of standards of care. It also refers to the operating procedures necessary to continually improve the care of injured patients from injury prevention and control programs through post injury rehabilitation. The ability to enforce laws and rules guides the care and treatment of injured patients throughout the continuum of care.

There must be sufficient legal authority to establish a lead trauma agency and to plan, develop, maintain, and evaluate the trauma system during all phases of care. In addition, it is essential that as the development of the trauma system progresses, included in the legislative mandate are provisions for collaboration, coordination, and integration with other entities also engaged in providing care, treatment, or surveillance activities related to injured people. A broad approach to policy development should include the building of system infrastructure that can ensure system oversight and future development, enforcement, and routine monitoring of system performance; the updating of laws, regulations or rules, and policies and procedures; and the establishment of best practices across all phases of intervention. The success of the system in reducing morbidity and mortality due to traumatic injury improves when all service providers and system participants consistently comply with the rules, have the ability to evaluate performance in a confidential manner, and work together to improve and enhance the trauma system through defined policies.

OPTIMAL ELEMENTS

I. Comprehensive state statutory authority and administrative rules support trauma system leaders and maintain trauma system infrastructure, planning, oversight, and future development. **(B-201)**

a. The legislative authority states that all the trauma system components, emergency medical services (EMS), injury control, incident management, and planning documents work together for the effective implementation of the trauma system (infrastructure is in place). **(I-201.2)**

b. Administrative rules and regulations direct the development of operational policies and procedures at the state, regional, and local levels. **(I-201.3)**

II. The lead agency acts to protect the public welfare by enforcing various laws, rules, and regulations as they pertain to the trauma system. **(B-311)**

a. Laws, rules, and regulations are routinely reviewed and revised to continually strengthen and improve the trauma system. **(I-311.4)**

CURRENT STATUS

The IPEMS Section has served as the administrative unit for trauma and emergency medical services (EMS) since 1977. The Alaska State Statutes (AS 18.08.010), related to EMS and Trauma as revised in 1993, provide the agency with authority for the development, implementation, and maintenance of a statewide comprehensive EMS system. Historically the IPEMS has provided leadership with dedicated individuals who have committed themselves to the improvement of trauma and emergency care for the state. Leadership within the IPEMS has experienced changes beginning in 2004 due to the retirement of its Chief and reorganization within the DHSS.

A significant strength for the IPEMS Section is that it currently has support from the senior leadership within the DHSS to provide for the development and regulatory oversight of the state's EMS and trauma system. The statutory authority and departmental support provide an opportunity for the IPEMS Section to identify and collaborate with the numerous stakeholders for trauma and EMS to include the Alaska Hospital Association, the Native Alaskan healthcare providers, prehospital provider organizations, health professional organizations, and numerous governmental and non-governmental entities.

The Alaska Council on Emergency Medical Services (ACEMS) was established in statute (AS 18.08.020). The council has eleven members appointed by the Governor, and it is charged with advising the Commissioner of DHSS and Governor regarding the planning and implementation of a statewide EMS system. Membership of the council includes prehospital professionals, other healthcare professionals, an EMS administrator, a hospital administrator and members of the public. The ACEMS currently has no required surgical, pediatric, or legislative representation on the council.

The Trauma System Review Committee (TSRC) is appointed by the Commissioner of DHSS. It is comprised of physicians and other healthcare professionals tasked to review the trauma system data. The committee is a legal medical review organization under statute AS 18.23.010-070, and membership is approved by the State Medical Board.

The TSRC's work in reviewing the trauma registry data and monitoring the care being delivered to the state's citizens and visitors is provided confidentiality and liability protection in statute AS 18.23.020. This represents another significant strength in the state's EMS and trauma system. The committee's role beyond the review of trauma registry data is not clearly defined and no direct connection to the ACEMS currently exists.

Recently the TSRC proposed a legislative effort titled the Alaska Trauma Improvement Act, but insufficient legislative support was obtained for passage in the last (2006) legislative session. The efforts and success of the TSRC to promote improvements in trauma care for all Alaskans is commendable and can be attributed to the vision and leadership provided by its chair Dr. Frank Sacco and to the dedication of its membership. Currently hospital participation in the statewide trauma system is voluntary and no incentives are provided to promote participation. For an inclusive trauma system approach and to improve trauma care statewide all hospitals should be required to participate, not only by submission of trauma data, but at some level of trauma system participation.

The state EMS medical director's current role does not include medical oversight of the trauma system. The state does not have a trauma medical director or advisor identified to provide the IPEMS Section with guidance in the development and oversight of the trauma system. The designation of a trauma surgeon to such a role would increase the state's ability to fully integrate all phases of care, including prehospital, into a statewide inclusive trauma system.

RECOMMENDATIONS

- **Enact legislation to expand the membership of the ACEMS to represent the trauma system and include the following members appointed as follows:**
  - **One member, appointed by the Governor, shall represent the Alaska Chapter of the American College of Surgeons Committee on Trauma.**
  - **One member, appointed by the Governor, shall be a general surgeon who routinely participates in the care of injured patients.**
  - **One member, appointed by the Governor, shall represent the Alaska Chapter of the American Academy of Pediatrics.**
  - **One member, appointed by the Alaska Legislature upon the recommendation of the Speaker of the House of Representatives.**
  - **One member, appointed by the Alaska legislature upon the recommendation of the President of the Senate.**
- **Require participation of all acute care hospitals in the trauma system within a 2 year time frame.**

- **Facilities should seek trauma center designation at a level appropriate for their capabilities.**
- **Other facilities, such as remote health care clinics, should participate with rapid patient assessment and stabilization and by following guidelines for trauma triage and transfer.**

- Require all hospitals and clinics to submit data to the state trauma registry.
- Amend the Alaska Administrative Code (AAC) to give the IPEMS Section responsibility for development of a statewide plan for the implementation and monitoring of an inclusive trauma system.

Purpose and Rationale

In addition to lead agency staff and consultants (for example, trauma system medical director), there are other significant leadership roles essential to developing mature trauma systems. A broad constituency of trauma leaders includes trauma center medical directors and nurse coordinators, prehospital personnel, injury prevention advocates, and others. This broad group of trauma leaders works with the lead agency to inform and educate others about the trauma system, implements trauma prevention programs, and assists in trauma system evaluation and research to ensure that the right patient, right hospital, and right time goals are met. There is a strong role for the trauma system leadership in conveying trauma system messages, building communication pathways, building coalitions, and collaborating with relevant individuals and groups. The marketing communication component of trauma system development and maintenance begins with a consensus-built public information and education plan. The plan should emphasize the need for close collaboration between coalitions and constituency groups and increased public awareness of trauma as a disease. The plan should be part of the ongoing and regular assessment of the trauma system and be updated as frequently as necessary to meet the changing environment of the trauma system.

When there are challenges to providing the optimal care to trauma patients within the system, the leadership needs to effect change to produce the desired results. Broad system improvements require the ability to identify challenges and the resources and authority to make changes to improve system performance. However, system evaluation is a shared responsibility. Although the leadership will have a key role in the acquisition and analysis of system performance data, the multidisciplinary trauma oversight committee will share the responsibility of interpreting those data from a broad systems perspective to help determine the efficiency and effectiveness of the system in meeting its stated performance goals and benchmarks. All stakeholders have the responsibility of identifying opportunities for system improvement and bringing them to the attention of the multidisciplinary committee or the lead agency. Often, subtle changes in system performance are noticed by clinical care providers long before they become apparent through more formal evaluation processes.

Perhaps the biggest challenge facing the lead agency is to synergize the diversity, complexity, and uniqueness of individuals and organizations into a finely tuned system for prevention of injury and for the provision of quality care for injured patients. To meet this challenge, leaders in all phases of trauma care must demonstrate a strong desire to work together to improve care provided to injured victims.

OPTIMAL ELEMENTS

I. Trauma system leaders (lead agency, trauma center personnel, and other stakeholders) use a process to establish, maintain, and constantly evaluate and improve a comprehensive trauma system in cooperation with medical, professional, governmental, and other citizen organizations. **(B-202)**

II. Collected data are used to evaluate system performance and to develop public policy. **(B-205)**

III. Trauma system leaders, including a trauma-specific statewide multidisciplinary, multiagency advisory committee, regularly review system performance reports. **(B-206)**

IV. The lead agency informs and educates state, regional, and local, constituencies and policy makers to foster collaboration and cooperation for system enhancement and injury control. **(B-207)**

CURRENT STATUS

The IPEMS Section of the DHSS is the lead agency charged with development, implementation, and maintenance of a statewide comprehensive EMS system, including trauma care. The DHSS has identified the development of a statewide trauma system as one of its 2009 priorities. Both the DHSS Commissioner and Chief Medical Officer were supportive of obtaining an American College of Surgeons (ACS) Trauma Systems Consultation, and both attended. Alaska has not established a clear process for developing, maintaining and continually evaluating a comprehensive trauma system, and this, in part, was the impetus for this consultative visit.

The Alaska Trauma Registry Review Committee was created to review registry data, provide guidance for trauma registry improvement, and review and approve requests for release of registry data. The TSRC role has broadened over the years to include reviewing trauma registry data, making recommendations for trauma system improvement, and reviewing facilities for Level IV trauma center designation. The name has also changed, to become the Trauma Systems Review Committee (TSRC). The TSRC has multidisciplinary membership appointed by the IPEMS Section and approved by the Alaska Medical Board. The chairperson of the Alaska Chapter of the American College of Surgeons Committee on Trauma (ACS-COT) is currently a member of the TSRC.

The TSRC has been attempting to effect change by conducting selected studies from the trauma registry to evaluate trauma care, and then developing care guidelines, such as the head injury management guidelines for rural facilities.

Recommendations from the TSRC that have been transmitted to the lead agency have not always resulted in action or change, and the TSRC is not empowered to make changes in the trauma system. Individuals from the committee are also active in proposing new trauma system improvement legislation.

By statute the ACEMS is charged with advising the Governor and the Commissioner of DHSS with regard to the planning and implementation of a statewide EMS system that by definition includes trauma. From a review of ACEMS minutes, this council has primarily addressed prehospital issues with little focus on issues related to the broader trauma system. The Chair of the Alaska Chapter of the ACS-COT regularly attends meetings of ACEMS, and he has reported trauma system issues and advances to the council. The Alaska COT has been active in proposing trauma system improvements and change.

While the surgeons of the Alaska Native Healthcare System are very active in trauma systems development and performance improvement, other community surgeons in Anchorage are not as actively engaged. The trauma nurse coordinators from the hospitals throughout the state appear to be experienced, knowledgeable, and active in trying to improve the trauma system.

The state does not have a group of multidisciplinary trauma stakeholders; however the large number of participants present at the trauma system consultation (TSC) demonstrates that the state has interested stakeholders. No forum exists for trauma system problem resolution. A state trauma advisory body that serves as a subcommittee of the ACEMS is a recommended strategy for giving stakeholders an opportunity to participate in trauma system development.

RECOMMENDATIONS

- **Form the Alaska Trauma Advisory Committee (ATAC) and task it with providing the Alaska Council on Emergency Medical Services (ACEMS) with recommendations regarding the following functions of the trauma system: trauma system planning, data systems, systemwide performance improvement and patient safety, trauma education (Advanced Trauma Life Support [ATLS], Trauma Nurse Core Curriculum [TNCC], Prehospital Trauma Life Support [PHTLS], etc), trauma center review and designation, injury prevention and control, public policy, and research.**
- Ensure that the Alaska Trauma Advisory Committee (ATAC) has a broad multidisciplinary membership that might include legislative personnel and representation from the Alaska Native Healthcare System, the public sector hospital systems, the Alaska Hospital Association, emergency nurses, prehospital providers, and the media.
- Develop trauma stakeholder discussion groups (e.g., trauma medical directors, trauma coordinators, trauma registrars) to provide direction and

broad-based, multidisciplinary and multi-committee support for trauma system development.

- Make the existing TSRC a subcommittee of the ATAC, sanctioned by the Alaska Medical Board and narrow its focus to specifically concentrate on issues of system performance and improvement.

Purpose and Rationale

Coalition building is a continuous process of cultivating and maintaining relationships with constituents (interested citizens) in a state or region who agree to collaborate on injury control and trauma system development. Key constituents include health professionals, trauma center administrators, prehospital care providers, health insurers and payers, data experts, consumers and advocates, policy makers, and media representatives. The coalition of key constituents comprises the trauma system's stakeholders. The involvement of these key constituents is important for the following:

- Trauma system plan development
- Regionalization: promoting collaboration rather than competition between trauma centers
- System integration
- State policy development: authorizing legislation and regulations
- Financing initiatives
- Disaster preparedness

The coalition should be effectively organized through the formation of multidisciplinary state and regional advisory groups to coordinate trauma system planning and implementation efforts. Constituents also communicate with elected officials and policy leaders regarding the development and sustainability of the trauma system. Information and education are needed by constituents to be effective partners in policy development for trauma system planning. Regular communication about the status of the trauma system helps these key partners to recognize needs and progress made with trauma system implementation.

One of the most effective ways to educate elected officials and the public is through an organized public information and education effort that may involve a media campaign about the burden of injury in the state and the need for trauma system development. Information and education are important to reduce the incidence of injury in all age groups and to demonstrate the value of an effective trauma system when a serious injury occurs.

OPTIMAL ELEMENT

I. The lead agency informs and educates state, regional, and local constituencies and policy makers to foster collaboration and cooperation for system enhancement and injury control. **(B-207)**

CURRENT STATUS

Alaska does not currently have a coalition of trauma stakeholders who meet or communicate about the trauma system. It was reported that a prior trauma stakeholder group, associated with federal grant funding, had met but was disbanded when federal funding ended. This trauma system consultation was one of the first opportunities for health professionals, acute care facility administrators, state agency representatives, prehospital providers, and data managers to meet and focus on aspects of the trauma system.

The most significant barrier to sustaining a trauma stakeholder group was identified as geography and the high cost associated with travel to a central location. Alternate mechanisms of communication such as an electronic listserv or web-based conferencing have not been investigated. Another barrier is the lack of a state trauma manager with adequate time to facilitate communication among stakeholders interested in trauma care issues.

Developing a trauma system has only recently become a priority goal of the DHSS. It was reported that Alaskans have an expectation that they will be cared for in the event of injury, and they believe the resources of a trauma system are in place. No public education regarding trauma care and the need for a trauma system has yet been initiated. Some education of elected state officials has been initiated, but it may be challenging to make the trauma system a priority without strong public support.

RECOMMENDATIONS

- **Develop and disseminate public information about the challenges in providing trauma care and the status of the trauma system in the state for Alaskans.**
- Establish a mechanism of communication (e.g., electronic listserv or discussion group) for stakeholders with an interest in trauma system development.
    - Ensure that information about planning meetings is posted and accessible to stakeholders in a timely manner.
- Identify mechanisms for interested individuals to participate in trauma system planning from remote locations (e.g., web-based teleconferencing).

Lead Agency and Human Resources within the Lead Agency

Purpose and Rationale

Each trauma system (state, regional, local, as defined in state statute) should have a lead agency with a strong program manager who is responsible for leading the trauma system. The lead agency, usually a government agency, should have the authority, responsibility, and resources to lead the planning, development, operations, and evaluation of the trauma system throughout the continuum of care. The lead agency, empowered through legislation, ensures system integrity and provides for program integration with other health care and community-based entities, namely, public health, EMS, disaster preparedness, emergency management, law enforcement, social services, and other community-based organizations.

The lead agency works through a variety of groups to accomplish the goals of trauma system planning, implementation, and evaluation. The ability to bring multidisciplinary, multiagency advisory groups together to accomplish trauma system goals is essential in developing and maintaining the trauma system and is part of providing leadership to evolving and mature systems.

The lead agency's trauma system program manager coordinates trauma system design, the adoption of minimum standards (prehospital and in-hospital), and provides for overall system evaluation through performance indicator assessment and assurance. In addition to a trauma program manager, the lead agency must be sufficiently staffed to actively participate in each phase of development and in maintaining the system through a clearly defined structure for decision making (policies and procedures) and through proactive surveillance and evaluation. *Minimum* staffing usually consists of a trauma system program manager, data entry and analysis personnel, and monitoring and compliance personnel. Additional staff resources include administrative support and a part-time commitment from the public health epidemiology service to provide system evaluation and research support.

Within the leadership and governance structure of the trauma system, there is a role for strong physician leadership. This role is usually fulfilled by a full- or part-time trauma medical director within the lead agency.

OPTIMAL ELEMENTS

I. Comprehensive state statutory authority and administrative rules support trauma system leaders and maintain trauma system infrastructure, planning, oversight, and future development. **(B-201)**

a. The legislative authority (statutes and regulations) plans, develops, implements, manages, and evaluates the trauma system and its component parts, including the identification of the lead agency and the designation of trauma facilities. **(I-201.1)**

b. The lead agency has adopted clearly defined trauma system standards (for example, facility standards, triage and transfer guidelines, and data collection standards) and has sufficient legal authority to ensure and enforce compliance. **(I-201.4)**.

II. Sufficient resources, including financial and infrastructure-related, support system planning, implementation, and maintenance. **(B-204)**

CURRENT STATUS

The role of the IPEMS Section in trauma system development is clearly stated in state statutes; however, better definition of how the agency integrates trauma care into the overall EMS program is needed, such as through the development of a statewide trauma strategic plan (See Trauma System Plan).

The trauma system is currently managed by a trauma system manager (0.2 full-time equivalent [FTE]) and a trauma registrar (1.0 FTE). The trauma registrar is supported by two contracted positions. The trauma registrar also has computer and epidemiology support from the National Institute for Occupational Safety and Health (NIOSH) Field Station staff. The IPEMS Section also has an impressive injury prevention program and staffing. However, the lead agency is not adequately staffed to meet the demands of developing and maintaining a statewide trauma system through trauma program assessment, policy development, and performance improvement activities.

The present job classification for the trauma manager is a Public Health Specialist II position which does not specify any education or experience requirements related to emergency health care. The present job description identifies the additional duties and responsibilities for the state trauma manager to include serving as the state Emergency Medical Services for Children (EMSC) program manager and the manager of grants for the state rural automated external defibrillator program. Additional duties and responsibilities for this position include analyzing the continuing education needs and soliciting

educational sessions for the annual EMS Symposium. It was reported that the EMSC responsibilities have now been shifted to another position. However, the remaining responsibilities would significantly impact the individual's ability to focus on trauma system development.

Staffing is currently insufficient within the lead agency to encourage and support trauma stakeholders in building a statewide inclusive trauma system. A qualified trauma manager is needed to facilitate the development of a statewide trauma system plan. As the position is currently vacant, the timing is optimal to revise the job description and job classification to enable recruitment of an individual who is a health professional (e.g., nurse with a BSN or MSN) with experience in trauma or emergency health care.

Additionally, the trauma system has no designated physician to provide medical oversight. The IPEMS Section has a designated emergency physician serving as the State EMS Medical Director, but this individual has no responsibilities for trauma system medical control and oversight. If a Trauma Medical Director can not be recruited and hired, potentially a Trauma Medical Oversight Subcommittee of the ATAC could be created to fulfill this responsibility and support the State EMS Medical Director.

RECOMMENDATIONS

- **Develop an appropriate position classification and duty statement for a 1.0 full time equivalent (FTE), permanent trauma system manager that specifies education as a health professional, experience in trauma or emergency health care, and the administrative skills and clinical understanding necessary to support trauma system development.**
- Recruit a trauma manager.
- Develop a mechanism for trauma system medical oversight (e.g., hire a Trauma Medical Director, develop a subcommittee of the Alaska Trauma Advisory Committee).
- Ensure that the trauma system has trauma medical direction.

Purpose and Rationale

Each trauma system, as defined in statute, should have a clearly articulated trauma system planning process resulting in a written trauma system plan. The plan should be built on a completed inventory of trauma system resources identifying gaps in services or resources and the location of assets. It should also include an assessment of population demographics, topography, or other access enhancements (location of hospital and prehospital resources) or barriers to access. It is important that the plan identify special populations (for example, pediatric, elderly, in need of burn care, ethnic groups, rural) within the geographic area served and address the needs of those populations within the planning process. A needs assessment (or other method of identifying injury patterns, patient care review/preventable death study) should also be completed for initial trauma system planning and updated periodically as needed to assess system changes over time.

The trauma system plan is developed by the lead trauma agency based on the results of a needs assessment and other data resources available for review. It describes the system design, integrated and inclusive, with adopted standards of care for prehospital and hospital personnel and a process to regularly review the plan over time. The plan is built on input from trauma advisory committees (or stakeholder groups) that assist in analyzing data, identifying resources, and developing system standards of care, including system policies and procedures and overall system design. Ideally, although every stakeholder group may not be satisfied with the plan or system design, the plan, to the extent possible, should be based on consensus of the advisory committees and stakeholder groups. These advisory groups should be able to review the plan before final adoption and approve the plan before it is submitted to the lead agency with authority for plan approval.

The trauma system plan is used to guide system development, implementation, and management. Each component of the trauma system (for example, prehospital, hospital, communications, and transportation) is clearly defined and an established service level identified (baseline) with goals for enhancement (benchmark). Within the plan are incorporated other planning documents used to ensure integration of similar services and build collaboration and cooperation with those services. Service plans for emergency preparedness, EMS, injury prevention and control, public health, social services, and mental health are examples of services for which the trauma system plan should include an interface between agencies and services.

OPTIMAL ELEMENT

I. The state lead agency has a comprehensive written trauma system plan based on national guidelines. The plan integrates the trauma system with EMS, public health, emergency preparedness, and incident management. The written trauma system plan is developed in collaboration with community partners and stakeholders. **(B-203)**

a. The trauma system plan clearly describes the system design (including the components necessary to have an integrated and inclusive trauma system) and is used to guide system implementation and management. For example, the plan includes references to regulatory standards and documents and includes methods of data collection and analysis. **(I-203.4)**

CURRENT STATUS

In 1993, Alaska secured funding from HRSA to develop a statewide trauma system plan. A task force was created to draft a trauma plan within the existing *Alaska EMS Goals* document. The 1992 Health Resources and Services Administration (HRSA) *Model Trauma Care System Plan* draft was utilized as the basis for the development of this trauma system plan. The grant funding also enabled the state to develop two additional documents: Trauma Triage, Transport and Transfer Guidelines and a Guide on Rehabilitation Services. No mention was made of work performed during federal trauma grant funding from 2002 to 2004.

The *Alaska EMS Goals* document is a guide for the development of EMS and trauma systems by categorizing communities throughout the state by remoteness and resources that should be available. The document identifies specific challenges that Alaska communities face such as access and availability of care, limited road access, availability of training, and recruitment and retention of EMS volunteers. The classifications of communities can also be used to identify levels of care and capabilities to manage the trauma patient.

The *Alaska EMS Goals* document provides a brief overview of EMS system needs in Alaska and lists the state's priorities for grant funding. The integration and consideration of special organizations such as rural health networks, critical incident stress management teams, community injury prevention organizations and local emergency preparedness councils are reflected in the document, along with topics such as seasonal impacts, special populations, hazardous materials, injury prevention, air medical transportation, communications, trauma care, and quality assurance.

An assessment tool called the EMS Community Checklist is available to communities in order to determine their current status in meeting EMS and Trauma system goals within a specified community classification. It is unclear if the data from the assessment tools have been collated and utilized for state system planning.

The community classification in the goals document references classification levels from rural to urban using a 1-5 numbering system. This numbering system is inconsistent with the ACS standards for level of trauma center verification which are in reverse order by facility capabilities.

The TSRC has adopted the *ACS Resources for Optimal Care of the Injured Patient for Acute Care Facilities*, as the standard for trauma center certification (the term used by Alaska for designation). The *Alaska EMS Goals* document clearly specifies the adoption of these standards within each community categorization. The document also promotes the utilization of the various triage and treatment guidelines for the trauma patient. In addition, the guide specifies the importance of establishing an inclusive trauma system and the utilization of trauma registry data to assess the effectiveness of the system.

The *Alaska EMS Goals* document was last updated in 2003, making it consistent with planning and evaluation standards of the time. The guide does not incorporate the 2006 *HRSA Model Trauma System Planning and Evaluation* document that promotes a public health approach to trauma system development.

Overall, the *Alaska EMS Goals* document provides the necessary and comprehensive guidelines for the development and enhancement of the components of a state trauma system. A state assessment to determine at what level the communities have met the goals, has not been accomplished to determine the current needs or trauma resources and assets available.

The IPEMS Section has established five reasonable goals for the trauma system with the limited state resources that are available. Though the goals appear to be achievable, it is unclear how the needs for these goals were determined and how they will be measured and accomplished.

The state has seven EMS regions and EMS Councils. Specific areas of the *Alaska EMS Goals* document recognize the importance of these regional and local assets. However, utilization of these resources for trauma system assessment and strategic planning has not been clearly demonstrated.

RECOMMENDATIONS

- **Develop a comprehensive trauma system strategic plan based on the Health Resources and Services Administration (HRSA) *Model Trauma System Planning and Evaluation* document.**
- Consider revising the *Alaska EMS Goals* document by reversing the community classification numbering system to be consistent with the American College of Surgeons Committee on Trauma (ACS-COT) trauma center verification levels (e.g., urban is 1 and isolated community is 5).
- Ensure that the comprehensive trauma system plan is integrated and made consistent with the 2003 *Alaska EMS Goals* document, the state health plan, the injury prevention plan, the rural health plan and disaster preparedness plans.

System Integration

Purpose and Rationale

Trauma system integration is essential for the daily care of injured people and includes such services as mental health, social services, child protective services, and public safety. The trauma system should use the public health approach to injury prevention to contribute to reducing the entire burden of injury in a state or region. This approach enables the trauma system to address primary, secondary, and tertiary injury prevention through closer integration with community health programs and mobilizing community partnerships. The partnerships also include mental health, social services, child protection, and public safety services. Collaboration with the public health community also provides access to health data that can be used for system assessment, development of public policy, and informing and educating the community.

Integration with EMS is essential because this system is linked with the emergency response and communication infrastructure and transports severely injured patients to trauma centers. Triage protocols should exist for treatment and patient delivery decisions. Regulations and procedures should exist for online and off-line medical direction. In the event of a disaster affecting local trauma centers, EMS would have a major role in evacuating patients from trauma centers to safety or to other facilities or to make beds available for patients in greater need.

The trauma system is a significant state and regional resource for the response to mass casualty incidents (MCIs). The trauma system and its trauma centers are essential for the rapid mobilization of resources during MCIs. Preplanning and integration of the trauma system with related systems (public health, EMS, and emergency preparedness) are critical for rapid mobilization when a disaster or MCI occurs. The extensive impact of disasters and MCIs on the functioning of trauma centers and the EMS and public health systems within the affected region or state must be considered, and joint planning for optimal use of all resources must occur to enable a coordinated response to an MCI. Trauma system leaders need to be actively involved in emergency management planning to ensure that trauma centers are integrated into the local, regional, and state disaster response plans.

OPTIMAL ELEMENTS

I. The state lead agency has a comprehensive written trauma system plan based on national guidelines. The plan integrates the trauma system with EMS, public health, emergency preparedness, and incident management. The written trauma system plan is developed in collaboration with community partners and stakeholders. **(B-203)**

a. The trauma system plan has established clearly defined methods of integrating the trauma system plan with the EMS, emergency, and public health preparedness plans. **(I-203.7)**

II. The trauma, public health, and emergency preparedness systems are closely linked. **(B-208)**

CURRENT STATUS

The two groups involved with EMS and trauma are the ACEMS and the TSRC. Membership on the ACEMS is dictated in statute and consists of two physicians with experience in either emergency medicine or trauma, emergency nurses, prehospital providers, an EMS administrator, a hospital administrator, and consumers. Currently the only formal trauma involvement is the Chair of the ACS-COT who serves in a liaison capacity. TSRC membership includes a trauma registrar, epidemiologist, surgeon, emergency physician, hospital administrator, hospital trauma director, all Anchorage trauma nurse coordinators, two prehospital EMS personnel, a pediatrician, and six other miscellaneous members.

Little apparent integration occurs between other trauma stakeholders. Even with EMS representation on the TSRC and a trauma liaison on ACEMS, an EMS participant reported continuing issues regarding communications with the hospitals providing trauma care in Anchorage. Issues were said to involve diversion status and availability of specialty care providers, stemming from the differing level of commitment to trauma care by the facilities.

No integration was reported between the state trauma system and other related services, such as public safety or law enforcement agencies, mental health services, and social services. While psychiatric and social services consultations are available within the verified trauma care center and remaining two hospitals providing trauma care, there was no evidence of ongoing discussions regarding ways to improve interactions or for planning better system integration in the future.

Integration with the Office of Rural Health to support trauma education across the state was described. Integration with numerous other agencies was demonstrated by the transfer of funds for specific program support (see the Financing Section).

The membership of the future ATAC should include representation from fire, law enforcement, social services, injury prevention, mental health, and protective services, in addition to health professionals involved in trauma care. Having a consumer of trauma care or their family member would also bring the public perspective to issues. Legislative representatives would bring much needed insight into legal methods of change. Agencies that could also be included as formal or liaison members include the Office of Rural Health, the Alaska Native Healthcare System, and disaster preparedness agencies. The broader the representation working on the trauma system, the broader the attack base for resolution.

RECOMMENDATIONS

- **Ensure that the Injury Prevention and Emergency Medical Services (IPEMS) Section is engaged in planning with disaster preparedness, emergency management, and public health functions for integration of the trauma system.**

Financing

Purpose and Rationale

Trauma systems need sufficient funding to plan, implement, and evaluate a statewide or regional system of care. All components of the trauma system need funding, including prehospital, acute care facilities, rehabilitation, and prevention programs. Lead agency trauma system management requires adequate funding for daily operations and other important activities such as advisory committee meetings, development of regulations, data collection, performance improvement, and public awareness and education. Adequate funding to support the operation of trauma centers and their state of readiness to care for seriously injured patients within the state or region is essential. The financial health of the trauma system is essential for ensuring its integrity and its improvement over time.

The trauma system lead agency needs a process for assessing its own financial health, as well as that of the trauma system. A trauma system budget should be prepared, and costs should be reported by each component, if possible. Routine collection of financial data from all participating health care facilities is encouraged to fully identify the costs and revenues of the trauma system, including costs and revenues pertaining to patient care, administrative, and trauma center operations. When possible, the lead agency financial planning should integrate with the budgets and costs of the EMS system and disaster, rehabilitation, and prevention programs to enable development of a comprehensive financial health report.

Trauma system financial planning should be related to the trauma plan outcome measures (for example, patient outcome measures such as mortality rates, length of stay, and quality-of-life indicators). Such information may demonstrate the value added by having a trauma system in place.

OPTIMAL ELEMENTS

I. Sufficient resources, including financial and infrastructure-related, support system planning, implementation, and maintenance. **(B-204)**

a. Financial resources exist that support the planning, implementation, and ongoing management of the administrative and clinical care components of the trauma system. **(I 204.2)**

b. Designated funding for trauma system infrastructure support (lead agency) is legislatively appropriated. **(I-204.3)**

c. Operational budgets (system administration and operations, facilities administration and operations, and EMS administration and operations) are aligned with the trauma system plan and priorities. **(I-204.4)**

II. The financial aspects of the trauma systems are integrated into the overall performance improvement system to ensure ongoing fine tuning and cost-effectiveness. **(B-309)**

a. Collection and reimbursement data are submitted by each agency or institution on at least an annual basis. Common definitions exist for collection and reimbursement data and are submitted by each agency. **(I-309.2)**

CURRENT STATUS

Although Alaska has no designated state funding for the development and maintenance of a statewide trauma system, the IPEMS Section has been creative in leveraging funding to support various aspects of the trauma system. The IPEMS Section receives significant funding from several sources (primarily federal grants and other state allocations) that is being used to support the state's efforts to maintain the trauma system. However, many of these funding sources will only provide short term assistance. The current funding sources include the following:

- Community Health Grants to support Community Health Aide Training and medical supervision of the community health aides throughout the state based on a formula defined in AS 18.28.010.
- Rural Health Flexibility Funding is used to provide trauma training to Critical Access Hospitals and emergency services.
- The state provides capital project funding to support the communication needs of emergency responders for the maintenance and replacement of communications equipment.
- HRSA's Emergency Medical Services for Children program funding pays a portion of the salary support for the individual filling the part-time trauma manager position.
- Centers for Disease Control (CDC) Disaster Preparedness funds were used to pay for the ACS-COT trauma system consultation visit.
- NIOSH provides funding for one FTE and two contractors to support the trauma registry.

- Federal Emergency Preparedness Grants are pass-through funds used to develop and implement fire and burn injury prevention strategies. Recipients include the Municipality of Anchorage, the Alaska Native Tribal Health Consortium, and the Alaska State Hospital and Nursing Home Association.
- The state also provides funding to local agencies from the Code Blue Project Funds to provide EMS equipment and ambulances for local communities. With the assistance of the Department of Agriculture (USDA), the Rasmusson Foundation, and the Denali Commission, approximately $14 million was received to provide new EMS equipment in 2008. A local match is required for the foundation funding and is key to the success of the project.
- The state also provides resources to regional EMS agencies to develop a comprehensive EMS system as outlined in the Alaska EMS Goals document.

Currently, the state does not employ either the State EMS Medical Director or a Trauma Medical Director. However, they contract with an MD, on a part-time basis to, serve as the State EMS Medical Director. State funding to support EMS and trauma system medical direction is critical to the development and maintenance of a statewide inclusive trauma system.

The state does not charge fees for the designation of trauma center site visits. However, charging a fee for trauma center certification/designation would likely go directly to the state general fund due to the state's constitutional requirement prohibiting dedicated funds for program support. In addition, given the fact that trauma center certification/designation is currently voluntary, charging fees may be an impediment to implementing the state's inclusive trauma system.

Levels I-III trauma centers are verified by the ACS after which the state certifies/designates them as trauma centers at these levels. Level IV certifications/designations are conducted by the IPEMS based on meeting the criteria of the ACS Committee on Trauma. No state funding is available to support trauma center readiness or uncompensated care.

The trauma registry includes a mechanism to collect financial data regarding trauma patients, and all the hospitals participate in the registry. The data are not submitted from all hospitals in a timely manner, and the information is not currently being used for financial planning or evaluation of the statewide system.

RECOMMENDATIONS

- **Provide state funding to hire a fulltime trauma system manager.**
- Provide state funding to ensure sufficient medical direction for the trauma and EMS programs.
- Determine a method of providing financial support for hospitals certified/designated by the state as trauma centers to assist with uncompensated care and the cost of readiness.
- Encourage the use of FLEX grant funding for the preparation of eligible facilities to become certified/designated as Level IV trauma centers.

Trauma System Assurance

Prevention and Outreach

Purpose and Rationale

Trauma systems must develop prevention strategies that help control injury as part of an integrated, coordinated, and inclusive trauma system. The lead agency and providers throughout the system should be working with business organizations, community groups, and the public to enact prevention programs and prevention strategies that are based on epidemiologic data gleaned from the system.

Efforts at prevention must be targeted for the intended audience, well defined, and structured, so that the impact of prevention efforts is systemwide. The implementation of injury control and prevention requires the same priority as other aspects of the trauma system, including adequate staffing, partnering with the community, and taking advantage of outreach opportunities. Many systems focus information, education, and prevention efforts directly to the general public (for example, restraint use, driving while intoxicated). However, a portion of these efforts should be directed toward emergency medical services (EMS) and trauma care personnel safety (for example, securing the scene, infection control). Collaboration with public service agencies, such as the department of health is essential to successful prevention program implementation. Such partnerships can serve to synergize and increase the efficiency of individual efforts. Alliances with multiple agencies within the system, hospitals, and professional associations, working toward the formation of an injury control network, are beneficial.

Activities that are essential to the development and implementation of injury control and prevention programs include the following:

- A needs assessment focusing on the public information needed for media relations, public officials, general public, and third-party payers, thus ensuring a better understanding of injury control and prevention
- A needs assessment for the general medical community, including physicians, nurses, prehospital care providers, and others concerning trauma system and injury control information
- Preparation of annual reports on the status of injury prevention and trauma care in the system
- Trauma system databases that are available and usable for routine public health surveillance

OPTIMAL ELEMENTS

I. The lead agency informs and educates state, regional, and local constituencies and policy makers to foster collaboration and cooperation for system enhancement and injury control. **(B-207)**

a. The trauma system leaders (lead agency, advisory committees, and others) inform and educate constituencies and policy makers through community development activities, targeted media messaging, and active collaborations aimed at injury prevention and trauma system development. **(I-207.2)**

II. The jurisdictional lead agency, in cooperation with other agencies and organizations, uses analytic tools to monitor the performance of population based prevention and trauma care services. **(B-304)**

a. The lead agency, along with partner organizations, prepares annual reports on the status of injury prevention and trauma care in state, regional, or local areas. **(I-304.1)**

III. The lead agency ensures that the trauma system demonstrates prevention and medical outreach activities within its defined service area. **(B-306)**

a. The trauma system is active within its jurisdiction in the evaluation of community based activities and injury prevention and response programs. **(I-306.2)**

b. The effect or impact of outreach programs (medical and community training and support and prevention activities) is evaluated as part of a system performance improvement process. **(I-306.3)**

CURRENT STATUS

The state is to be commended for recognizing the significant problem and impact of injury on Alaskans. The IPEMS Section within DHSS is the primary focus area for injury epidemiology and injury prevention in the state. Numerous programs and sources of funding from other agencies and from grant funding (e.g., NIOSH, Maternal and Child Health, Department of Highway Safety, Medicaid, and CDC) support injury program efforts. Documents provided to the consultant team identified an injury program manager and 8 additional staff members in IPEMS.

The state has numerous groups with which it works successfully to implement injury prevention programs. The Alaska Native Tribal Health Consortium Injury Prevention Program works to develop and disseminate culturally appropriate injury prevention programs. Acute care facilities were reported to be implementing brief alcohol screening and intervention programs.
The Alaska Injury Prevention Center is an example of a coalition formed to promote injury prevention outreach by the Anchorage acute care facilities. This center has progressed beyond its original Anchorage outreach focus to become a nonprofit organization that can develop, implement, and evaluate injury program interventions across the entire state.

The state has been an acknowledged leader in the development of injury prevention programs, such as the Kids Don't Float program that has reduced drowning deaths among children. This program is now sustained through partnerships with the Coast Guard and SafeKids. The state often serves as a facilitator for injury program implementation through its many partnerships, such as Injury Prevention in a Bag with EMTs in small communities. Information about 16 injury mechanisms, their prevention strategies, and resources for injury prevention programs are available on the IPEMS website.

Several state agencies collaborate with IPEMS in conducting injury surveillance and in implementing injury prevention strategies, such as the Alaska Marine Safety and Education Association, Alaska Highway Safety Office, Alaska Division of Fire and Life Safety.

The EMS Goals document describes the importance of implementing injury prevention programs in all communities across the state. Injury prevention education is targeted to prehospital providers during the annual EMS conference, and continuing medical education units are provided. Prehospital providers have been engaged in implementing the Injury in a Bag program as well as other injury prevention programs.

The focus of the state and its extensive programming for primary injury prevention is exemplary. Injury prevention is an important component of the trauma system. An opportunity now exists to expand the primary injury prevention focus to the broader concept of injury control so that this emphasis can be integrated with the future state trauma system.

RECOMMENDATIONS

- Ensure representation of an injury prevention representative on the Alaska Trauma Advisory Council (ATAC).

- Incorporate the concept of "injury control" into the prevention activities to raise awareness of the need for a comprehensive and integrated trauma system.

Purpose and Rationale

The trauma system includes, and/or interacts with, many different agencies, institutions, and systems. The EMS system is one of the most important of these relationships. EMS is often the critical link between the injury-producing event and definitive care at a trauma center. Even though at its inception the EMS system was a very broad system concept, over time, EMS has come to be recognized as the prehospital care component of the larger emergency health care system. It is a complex system that not only transports patients, but also includes public access, communications, personnel, triage, data collection, and quality improvement activities.

The EMS system medical director must have statutory authority to develop protocols, oversee practice, and establish a means of ongoing quality assessment to ensure the optimal provision of prehospital care. If not the same individual, the EMS system medical director must work closely with the trauma system medical director to ensure that protocols and goals are mutually aligned. The EMS system medical director must also have ongoing interaction with EMS agency medical directors at local levels, as well as the state EMS for Children program, to ensure that there is understanding of and compliance with trauma triage and destination protocols.

Ideally, a system should have some means of ensuring whether resources meet the needs of the population. To achieve this end, a resource and needs assessment evaluating the availability and geographic distribution of EMS personnel and physical resources is important to ensure a rapid and appropriate response. This assessment includes a detailed description of the distribution of ground ambulance and air medical locations across the region. Resource allocations must be assessed on a periodic basis as needs dictate a redistribution of resources. In communities with full-time paid EMS agencies, ambulances should be positioned according to predictable geographic or temporal demands to optimize response efficiencies. Such positioning schemes require strong prehospital data collection systems that can track the location of occurrences over time. Periodic assessment of dispatch and transport times will also provide insight into whether resources are consistent with needs.

Each region should have objective criteria dictating the level of response (advanced life support [ALS], basic life support [BLS]), the mode of transport, and the disposition of the patient based on the location of the incident and the severity of injury. A mechanism for case-based review of trauma patients that involves prehospital and hospital providers allows bidirectional information sharing and continuing education, ensuring that expectations are met at both ends. Ongoing review of triage and treatment decisions allows for continuing quality improvement of the triage and prehospital care protocols. A more detailed discussion of in-field (primary) triage criteria is provided in the section titled: System Coordination and Patient Flow.

Human Resources

Periodic workforce assessments of EMS should be conducted to ensure adequate numbers and distribution of personnel. EMS, not unlike other health care professions, experiences shortages and misdistribution of personnel. Some means of addressing recruitment, retention, and engagement of qualified personnel should be a priority. It is critical that trauma system leaders work to ensure that prehospital care providers at all levels attain and maintain competence in trauma care. Maintenance of competence should be ensured by requiring standards for credentialing and certification and specifying continuing educational requirements for all prehospital personnel involved in trauma care. The core curricula for First Responder, Emergency Medical Technician (EMT) Basic, EMT-Intermediate, EMT Paramedic, and other levels of prehospital personnel have an essential orientation to trauma care for all ages. However, trauma care knowledge and skills need to be continuously updated, refined, and expanded through targeted trauma care training such as Prehospital Trauma Life Support®, Basic Trauma Life Support®, and age-specific courses. Mechanisms for the periodic assessment of competence, educational needs, and education availability within the system should be incorporated into the trauma system plan.

Systems of excellence also encourage EMS providers to go beyond meeting state standards for agency licensure and to seek national accreditation. National accreditation standards exist for ground-based and air medical agencies, as well as for EMS educational programs. In some states, agency licensure requirements are waived or substantially simplified if the EMS agency maintains national accreditation.

EMS is the only component of the emergency health care and trauma system that depends on a large cadre of volunteers. In some states, substantially more than half of all EMS agencies are staffed by volunteers. These agencies typically serve rural areas and are essential to the provision of immediate care to trauma patients, in addition to provision of efficient transportation to the appropriate facility. In some smaller facilities, EMS personnel also become part of the emergency resuscitation team, augmenting hospital personnel. The trauma care system program should reach out to these volunteer agencies to help them achieve their vital role in the outcome of care of trauma patients. However, it

must be noted that there is a delicate balance between expecting quality performance in these agencies and placing unrealistic demands on their response capacity. In many cases, it is better to ensure that there is an optimal BLS response available at all times rather than a sporadic or less timely response involving ALS personnel. Support to volunteer EMS systems may be in the form of quality improvement activities, training, clinical opportunities, and support to the system medical director.

Owing to the multidisciplinary nature of trauma system response to injury, conferences that include all levels of providers (for example, prehospital personnel, nurses, and physicians) need to occur regularly with each level of personnel respected for its role in the care and outcome of trauma patients. Communication with and respect for prehospital providers is particularly important, especially in rural areas where exposure to major trauma patients might be relatively rare.

Integration of EMS Within the Trauma System

In addition to its critical role in the prehospital treatment and transportation of injured patients, EMS must also be engaged in assessment and integration functions that include the trauma system and also public health and other public safety agencies. EMS agencies should have a critical role in ensuring that communication systems are available and have sufficient redundancy so that trauma system stakeholders will be able to assess and act to limit death and disability at the single patient level and at the population level in the case of mass casualty incidents (MCIs). Enhanced 911 services and a central communication system for the EMS/trauma system to ensure field-to-facility bidirectional communications, interfacility dialogue, and all-hazards response communications among all system participants are important for integrating a system's response. Wireless communications capabilities, including automatic crash notification, hold great promise for quickly identifying trauma-producing events, thereby reducing delays in discovery and decreasing prehospital response intervals.

Further integration might be accomplished through the use of EMS data to help define high-risk geographic and demographic characteristics of injuries within a response area. EMS should assist with the identification of injury prevention program needs and in the delivery of prevention messages. EMS also serves a critical role in the development of all-hazards response plans and in the implementation of those plans during a crisis. This integration should be provided by the state and regional trauma plan and overseen by the lead agency. EMS should participate through its leadership in all aspects of trauma system design, evaluation, and operation, including policy development, public education, and strategic planning.

OPTIMAL ELEMENTS

I. The trauma system is supported by an EMS system that includes communications, medical oversight, prehospital triage, and transportation; the trauma system, EMS system, and public health agency are well integrated. **(B-302)**

a. There is well-defined trauma system medical oversight integrating the specialty needs of the trauma system with the medical oversight for the overall EMS system. **(I-302.1)**

b. There is a clearly defined, cooperative, and ongoing relationship between the trauma specialty physician leaders (for example, trauma medical director within each trauma center) and the EMS system medical director. **(I-302.2)**

c. There is clear-cut legal authority and responsibility for the EMS system medical director, including the authority to adopt protocols, to implement a performance improvement system, to restrict the practice of prehospital care providers, and to generally ensure medical appropriateness of the EMS system. **(I-302.3)**

d. The trauma system medical director is actively involved with the development, implementation, and ongoing evaluation of system dispatch protocols to ensure they are congruent with the trauma system design. These protocols include, but are not limited to, which resources to dispatch, for example, ALS versus BLS, air ground coordination, early notification of the trauma care facility, pre-arrival instructions, and other procedures necessary to ensure that resources dispatched are consistent with the needs of injured patients. **(I-302.4)**

e. The retrospective medical oversight of the EMS system for trauma triage, communications, treatment, and transport is closely coordinated with the established performance improvement processes of the trauma system. **(I-302.5)**

f. There is a universal access number for citizens to access the EMS/trauma system, with dispatch of appropriate medical resources. There is a central communication system for the EMS/trauma system to ensure field- to-facility bidirectional communications, interfacility dialogue, and all-hazards response communications among all system participants. **(I-302.7)**

g. There are sufficient and well-coordinated transportation resources to ensure that EMS providers arrive at the scene promptly and expeditiously transport the patient to the correct hospital by the correct transportation mode. **(I-302.8)**

II. The lead trauma authority ensures a competent workforce. **(B-310)**

a. In cooperation with the prehospital certification and licensure authority, set guidelines for prehospital personnel for initial and ongoing trauma training, including trauma-specific courses and courses that are readily available throughout the state. **(I-310.1)**

b. In cooperation with the prehospital certification and licensure authority, ensure that prehospital personnel who routinely provide care to trauma patients have a current trauma training certificate, for example, Prehospital Trauma Life Support or Basic Trauma Life Support and others, or that trauma training needs are driven by the performance improvement process. **(I-310.2)**

c. Conduct at least 1 multidisciplinary trauma conference annually that encourages system and team approaches to trauma care. **(I-310.9)**

III. The lead agency acts to protect the public welfare by enforcing various laws, rules, and regulations as they pertain to the trauma system. **(B-311)**

a. Incentives are provided to individual agencies and institutions to seek state or nationally recognized accreditation in areas that will contribute to overall improvement across the trauma system, for example, Commission on Accreditation of Ambulance Services for prehospital agencies, Council on Allied Health Education Accreditation for training programs, and American College of Surgeons (ACS) verification for trauma facilities. **(I-311.6)**

CURRENT STATUS

The lead agency for Alaska EMS is the IPEMS Section under the authority of the DHSS. The EMS system is comprised of seven EMS regions that span a huge geographic area with extreme terrain and weather variations. These regions receive varying degrees of funding from the state. The state has approximately 3,300 Emergency Medical Technicians (EMTs), 175 Mobile Intensive Care Paramedics (MICPs) and unknown numbers of first responders.

When injured or ill patients require treatment not available locally, they may be transported by ground (ambulance, privately owned vehicle, snow machine, dog sled), by water (U.S. Coast Guard, fishing boat) or air (rotor or fixed wing, medical private or commercial). EMS ground services in Alaska include five BLS, 39 ALS with occasional BLS, and 33 ALS services. Air medical services include eight Medevac and 10 Critical Care Air Ambulance services with one service also certified as a Perinatal Specialty Air Medical Transport Service. Each of the regional hub cities has at least one air medical service. There are approximately

180 certified and uncertified first responder services across the state, however not all communities are covered.

EMT levels are as follows:

- EMT I (EMT Basic, 1994 U.S. Department of Transportation (DOT) National Standard Curriculum (NSC) with medication module but not manual defibrillation or advanced airway module);

- EMT II (EMT I plus 50 additional hours of training; exceeds EMT Intermediate 85, can administer intravenous fluids (5% dextrose in water, crystalloid volume-replacement solutions) and selected medications (50% dextrose in water and naloxone hydrochloride);

- EMT III (EMT I plus EMT II plus 50 hours of additional training; can administer EMT II medications plus lidocaine, atropine, morphine, and epinephrine 1:1000/1:10,000; apply electrodes, monitor cardiac activity and provide countershock for ventricular fibrillation and pulseless ventricular tachycardia).

- Defibrillator Technician training is available for EMT I and II levels that allows them to perform manual defibrillation.

EMT levels II and III function under direct or indirect supervision of a physician, and if they do not have a medical director they must function at the EMT I level. EMT I, II and III personnel are certified by the IPEMS Section. The local medical director may expand the scope of an EMT I, II or III after approval by the IPEMS Section and submission of a training and evaluation plan. The local medical director is responsible for the expanded care provided.

The Mobile Intensive Care Paramedic (MICP) is licensed by the Alaska State Medical Board which requires completion of training that follows the U.S. DOT NSC for paramedics, successful completion of the National Registry paramedic examination, and obtaining a physician sponsor approved by the Alaska State Medical Board.

First Responders are not certified by the state, including the Alaska Emergency Trauma Technician (ETT). The ETT is trained via a 44 hour course developed by the Public Safety Academy to cover emergency trauma care, medical communication, and Medevac preparations.

Most isolated communities have Community Health Aids (CHA) who are trained and function as the primary care provider either under the distant supervision of a physician or the direct supervision of a nurse practitioner or physician assistant located in the community. CHA's are First Responder or ETT trained with many at the EMT I level or higher. Due to the limited access to roads and a transportation system that depends on air or water and good weather, the injured

patient may be in the care of the CHA for up to 72 hours. It is essential that these communities have optimal communications capabilities for access to physicians and regional medical facilities. Due to the high turnover rate of the CHAs, the state will need to continue to make training programs available so this level of care can continue to be provided in these isolated communities.

The state contracts with an emergency physician on an as needed basis to perform selected duties of the state EMS medical director, and a federally-funded Alaska Native Health Service Medical Director oversees the Indian Health Service/Public Health Service medical directors. Regional and local physician medical directors are largely volunteers. A regional or local medical director for state certified EMT II or III personnel, training programs or courses (EMT II, EMT III or manual defibrillator technician training) or for a service (basic life support (BLS), advanced life support (ALS) or air medical) must be an Alaska licensed physician or a physician working in the regular medical service of the U.S. Armed Services or the U.S. Public Health Service. The medical director must participate in an orientation provided by the IPEMS Section within one year after accepting the responsibility of medical direction. Medical directors of an ALS ground service or air medical service have additional requirements.

Medical director responsibilities for the certified EMT include the following:

- supervise the medical care,
- establish and annually review treatment protocols,
- approve advanced life support standing orders for each state-certified EMT,
- provide quarterly critiques of patient care,
- schedule quarterly on-site supervision, and
- approve a program of continuing medical education for each state-certified EMT supervised.

The licensed MICP functions under a physician sponsor as noted above. While the responsibilities of the medical director of an MICP service are defined, the responsibility of the physician sponsor for the individual MICP is not. The IPEMS Section suggests that the MICP physician sponsor should follow the guidelines outlined for medical directors of certified EMTs. Local and regional EMS medical directors are provided liability coverage for their EMS duties, but their time is not compensated by the state.

Resources for regional and local EMS medical directors include an Alaska Medical Director's Handbook, a physician track during the annual State EMS Symposium, and an EMS Medical Directors' meeting during the symposium, both facilitated by the state EMS medical director.

Online medical direction for EMS providers in rural and remote locations is provided by the hospital or clinic in that region via phone (some locations have limited telemedicine capability). Often the communications system is solely dependent on satellite access. The regional facility will decide on patient disposition and help arrange transport to the most appropriate health care facility. Patient transport may involve multiple transfers requiring various modes of travel.

Alaska's 27 largest communities have Enhanced 911 services. Wireless E-911 is available in Anchorage and Juneau with limited availability in Fairbanks and Kenai. The service is Phase II compliant (Phase II rules require wireless carriers to begin providing more precise Automatic Location Identification). Alaska has uniform minimum standards for training and certification of Emergency Medical Dispatchers.

RECOMMENDATIONS

- **Develop a central coordination center for statewide air medical resources that will maintain an updated registry of all medical aircraft to include medical services and flight characteristics (i.e. load capacity, instrument rating, landing requirements, etc); and to monitor the availability and location of air resources.**
- Continue to support the Emergency Trauma Technician training and maximize course availability.
- Develop a program of prehospital continuing education for trauma that includes special populations such as geriatrics and pediatrics.
- Develop a medical director's listserv as a method to disseminate information in a timely manner and encourage interaction among medical directors.
- Continue to develop a National EMS Information System (NEMSIS) - compliant electronic EMS database to support evaluation of the EMS system and as a quality improvement tool for patient care.

Purpose and Rationale

Inclusive trauma systems are the systems that include all acute health care facilities, to the extent that their resources and capabilities allow and in which the patient's needs are matched to hospital resources and capabilities. Thus, as the core of a regional trauma system, acute care facilities operating within an inclusive trauma system provide definitive care to the entire spectrum of patients with traumatic injuries. Acute care facilities must be well integrated into the continuum of care, including prevention and rehabilitation, and operate as part of a network of trauma-receiving hospitals within the public health framework. All acute care facilities should participate in the essential activities of a trauma system, including performance improvement, data submission to state or regional registries, representation on regional trauma advisory committees, and mutual operational agreements with other regional hospitals to address interfacility transfer, educational support, and outreach. The roles of all definitive care facilities, including specialty hospitals (for example, pediatric, burn, severe traumatic brain injury [TBI], spinal cord injury [SCI]) within the system should be clearly outlined in the regional trauma plan and monitored by the lead agency. Facilities providing the highest level of trauma care are expected to provide leadership in education, outreach, patient care, and research and to participate in the design, development, evaluation, and operation of the regional trauma system.

In an inclusive system, patients should be triaged to the appropriate facility based on their needs and facility resources. Patients with the least severe injuries might be cared for at appropriately designated facilities within their community, whereas the most severe should be triaged to a level I or II trauma center. In rural and frontier systems, smaller facilities must be ready to resuscitate and initiate treatment of the major injuries and have a system in place that will allow for the fastest, safest transfer to a higher level of care.

Trauma receiving facilities providing definitive care to patients with other than minor injuries must be specifically designated by the state or regional lead agency and equipped and qualified to do so at a level commensurate with injury severity. To assess and ensure that injury type and severity are matched to the qualifications of the facilities and personnel providing definitive care, the lead agency should have a process in place that reviews and verifies the qualifications of a particular facility according to a specific set of resource and quality standards. This criteria-based process for review and verification should be consistent with national standards and be conducted on a periodic cycle as determined by the lead agency. When centers do not meet set standards, there should be a process for suspension, probation, revocation, or dedesignation.

Designation by the lead agency should be restricted to facilities meeting criteria or statewide resource and quality standards and based on patient care needs of the regional trauma system. There should be a well-defined regulatory relationship between the lead agency and designated trauma facilities in the form of a contract, guidelines, or memorandum of understanding. This legally binding document should define the relationships, roles, and responsibilities between the lead agency and the medical leadership from each designated trauma facility. The number of trauma centers by level of designation and location of acute care facilities must be periodically assessed by the lead agency with respect to patient care needs and timely access to definitive trauma care. There should be a process in place for augmenting and restricting, if necessary, the number and/or level of acute care facilities based on these periodic assessments. The trauma system plan should address means for improving acute care facility participation in the trauma system, particularly in systems in which there has been difficulty addressing needs.

Human Resources

The ability to deliver high-quality trauma care is highly dependent on the availability of skilled human resources. Therefore, it is critical to assess the availability and educational needs of providers on a periodic basis. Because availability, particularly of subspecialty resources, is often limited, some means of addressing recruitment, retention, and engagement of qualified personnel should be a priority. At this time, there are no fellowship trained trauma surgeons in Alaska. Periodic workforce assessments should be conducted. Maintenance of competence should be ensured by requiring standards for credentialing and certification and specifying continuing educational requirements for physicians and nurses providing care to trauma patients. Mechanisms for the periodic assessment of ancillary and subspecialty competence, educational needs, and availability within the system for all designated facilities should be incorporated into the trauma system plan. The lead trauma centers in rural areas will need to consider teleconferencing and telemedicine to assist smaller facilities in providing education on regionally identified needs. In addition, lead trauma centers within the region should assist in meeting educational needs while fostering a team approach to care through annual educational multidisciplinary trauma conferences. These activities will do much to foster a sense of teamwork and a functionally inclusive system.

Integration of Designated Trauma Facilities Within the Trauma System

Designated trauma facilities must be well integrated into all other facets of an organized system of trauma care, including public health systems and injury surveillance, prevention, EMS and prehospital care, disaster preparedness, rehabilitation, and system performance improvement. This integration should be provided by the state and/or regional trauma plan and overseen by the lead agency.

Each designated acute care facility should participate, through its trauma program leadership, in all aspects of trauma system design, evaluation, and operation. This participation should include policy and legislative development, legislative and public education, and strategic planning. In addition, the trauma program and subspecialty leaders should provide direction and oversight to the development, implementation, and monitoring of integrated protocols for patient care used throughout the system (for example, TBI guidelines used by prehospital providers and nondesignated transferring centers), including region specific primary (field) and secondary (early transfer) triage protocols. The highest level trauma facilities should provide leadership of the regional trauma committees through their trauma program medical leadership. These medical leaders, through their activities on these committees, can assist the lead agency and help ensure that deficiencies in the quality of care within the system, relative to national standards, are recognized and corrected. Educational outreach by these higher level centers should be used when appropriate to help achieve this goal.

OPTIMAL ELEMENTS

I. Acute care facilities are integrated into a resource efficient, inclusive network that meets required standards and that provides optimal care for all injured patients. **(B-303)**

a. The trauma system plan has clearly defined the roles and responsibilities of all acute care facilities treating trauma and of facilities that provide care to specialty populations (for example, burn, pediatric, SCI, and others). **(I-303.1)**

II. To maintain its state, regional, or local designation, each hospital will continually work to improve the trauma care as measured by patient outcomes. **(B-307)**

a. The trauma system engages in regular evaluation of all licensed acute care facilities that provide trauma care to trauma patients and of designated trauma hospitals. Such evaluation involves independent external reviews. **(I-307.1)**

III. The lead trauma authority ensures a competent workforce. **(B-310)**

a. As part of the established standards, set appropriate levels of trauma training for nursing personnel who routinely care for trauma patients in acute care facilities. **(I-310.3)**

b. Ensure that appropriate, approved trauma training courses are provided for nursing personnel on a regular basis. **(I-310.4)**

c. In cooperation with the nursing licensure authority, ensure that all nursing personnel who routinely provide care to trauma patients have a trauma training certificate (for example, Advanced Trauma Care for Nurses, Trauma Nursing Core Course, or any national or state trauma nurse verification course). As an alternative after initial trauma course completion, training can be driven by the performance improvement process. **(I-310.5)**

d. In cooperation with the physician licensure authority, ensure that physicians who routinely provide care to trauma patients have a current trauma training certificate of completion, for example, Advanced Trauma Life Support® (ATLS®) and others. As an alternative, physicians may maintain trauma competence through continuing medical education programs after initial ATLS completion. **(I-310.8)**

e. Conduct at least 1 multidisciplinary trauma conference annually that encourages system and team approaches to trauma care. **(I-310.9)**

f. As new protocols and treatment approaches are instituted within the system, structured mechanisms are in place to inform all personnel about the changes in a timely manner. **(I-310-10)**

CURRENT STATUS

Facilities

Alaska has an inclusive, voluntary trauma system. There are 24 hospitals, two of which are military facilities. Five hospitals are certified/designated trauma centers:

- Level II trauma center: Alaska Native Medical Center
- Level IV trauma centers : Norton Sound Regional Hospital
  Yukon Kuskokwim Delta Regional Hospital
  Mt. Edgecumbe Hospital
  Sitka Community Hospital

Harborview Medical Center in Seattle, WA is the Level I trauma center that supports Southeast Alaska, and often patients from other areas of the state.

The hospitals caring for the largest volume of trauma patients are concentrated in Anchorage:

- Alaska Native Medical Center (certified/designated Level II)
- Providence Alaska Medical Center (not designated), private not-for-profit
- Alaska Regional Hospital (not designated), for-profit

The only other community with more than one hospital is Sitka (Sitka Community Hospital and Mt. Edgecumbe Hospital, both level IV trauma centers).

Large portions of the state are in remote, austere areas with low population, no roads and minimal health care availability. These areas are essentially isolated in periods of bad weather and must rely on local resources for emergency care for extended periods of time.

For purposes of health care delivery, the two distinct populations in Alaska (not including the military), are Native Alaskans and all other Alaskans. Native Alaskans generally receive care via the Alaska Tribal Health System/Alaska Native Tribal Health Consortium, an integrated network of facilities and providers that deliver care to defined beneficiaries. At the local level, community clinics staffed by Community Health Aides or mid-level providers are sources of healthcare in small communities. These clinics are part of an established referral relationship that includes mid-level providers, physicians, regional hospitals, and the Alaska Native Medical Center (Level II trauma center), providing the entire spectrum of acute trauma care. The community clinics and Community Health Aides/mid-level providers assume a significant role for the stabilization and early management of trauma patients prior to transport, and when patients cannot be transported out to larger facilities because of weather or other conditions.

Perception of incentives for hospitals to become certified/designated as trauma centers vary. The Alaska Tribal Health System/ Alaska Native Tribal Health Consortium has recognized the burden of injury on Native Alaskans, leading to the support of trauma center certification/designation of the Alaska Native Medical Center and some level IV facilities. Despite the financial costs associated with verification and certification, participants reported collateral benefits of trauma center certification/designation, including contributing to an overall elevation of the quality of care at that institution and providing service to their community. Although the private non-profit hospitals that serve Alaskans recognize that trauma care is an important contribution to the community, these facilities are reluctant to pursue certification/designation without the support of their medical staffs.

Human Resources

Human resources are limited, and significant problems exist for recruitment and retention of physicians and nurses. The shortages of physicians and nurses will likely worsen in the coming years (Alaska Physician Supply Task Force report, 2006). Since Alaska has no medical school, the option of "growing our own" which has been somewhat successful for other states, will not work without strong collaboration with the University of Washington's WWAMI program, partnership between the University of Washington School of Medicine and the states of Wyoming, Alaska, Montana, and Idaho. For example, there are currently no trauma fellowship trained general surgeons in the state, in any facility. There are surgeons who do trauma surgery. Alaska Native Medical

Center has 3 surgery residents rotating from Phoenix. Providence Alaska Medical Center has family practice residents on rotation.

Several surgical specialties are in jeopardy including pediatric surgery and vascular surgery. One of 2 pediatric surgeons in the state has recently retired, prompting the remaining pediatric surgeon to make tentative plans to leave Alaska. The situation for neurosurgery and orthopedics appears more stable with sufficient numbers in Anchorage to support current volumes. Patients requiring re-implantation and many requiring burns are transported to centers outside Alaska. Among general surgeons taking emergency department call in non-designated hospitals with significant trauma volumes, participants expressed concern regarding the burden of trauma call and identified emerging requests for financial support for taking trauma call.

Among nurses, high turnover rates and staffing with travelers are commonplace challenges. Given the national outlook for nursing shortages, this will likely worsen with time. Critical care nurse staffing levels are especially low and contribute to bypass decisions.

Integration of Designated Trauma Facilities Within the Trauma System

Diversion or inability to accept trauma patients reportedly occurs regularly and appears most often due to emergency department capacity issues, ICU bed availability, or the lack of staffed beds secondary to nursing shortages. On occasion, all 3 emergency departments in Anchorage have closed for trauma at the same time, which prompts the automatic re-opening of all the facilities and trauma patient transports in rotation. No state data are available to describe the frequency of such closings. The impact on EMS has been significant by their report, and this is compounded by challenges in communication about the rotation schedule.

Nondesignated hospitals provide the majority of trauma care in Alaska. Significant concerns were expressed by Fire and EMS crews regarding challenges they have faced when delivering patients to high-volume, nondesignated hospitals in Anchorage. Among these concerns expressed were that the nondesignated hospitals do not have the "system" in place to bring in the personnel resources needed for optimal care in a timely and efficient manner.

RECOMMENDATIONS

- **Establish, as soon as practical, a second Level II Trauma Center in Anchorage in accordance with American College of Surgeons Committee on Trauma (ACS-COT) verification criteria to meet the existing volume and acuity demands.**

- **Require participation of all acute care hospitals in the trauma system within a 2 year time frame with trauma center designation appropriate to their capabilities.**
- **Study pediatric trauma care needs with the goal of establishing one or more centers of excellence in pediatric trauma care.**
- Develop a memorandum of understanding between certified/designated hospitals and the state lead agency describing mutual roles and responsibilities.
- Support designated trauma center and affiliated physician readiness/standby costs and uncompensated trauma care costs through an identified state funding mechanism.
- Establish a mechanism to routinely track data on emergency department closures or bypass, and develop notification plans that include EMS and hospital stakeholders.
- Pursue a focused, well-funded strategy to recruit trauma surgeons and trauma prepared nurses to the state.
- Increase the number of physician resident positions at Alaska hospitals to encourage potential candidates to relocate to the state.

System Coordination and Patient Flow

Purpose and Rationale

To achieve the best possible outcomes, the system must be designed so that the right patient is transported to the right facility at the right time. Although on the surface this objective seems relatively straightforward, patients, geography, and transportation systems often conspire to present significant challenges. The most critically injured trauma patient is often easy to identify at the scene by virtue of the presence of coma or hypotension. However, in some circumstances, the patients requiring the resources of a Level I or II center may not be immediately apparent to prehospital providers. Primary or field triage criteria aid providers in identifying which patients have the greatest likelihood of adverse outcomes and might benefit from the resources of a designated trauma center. Even if the need is identified, regional geography or limited air medical (or land) transport services might not allow for direct transport to an appropriate facility.

Primary triage of a patient from the field to a center capable of providing definitive care is the goal of the trauma system. However, there are circumstances (for example, airway management, rural environments, inclement weather) when triaging a patient to a closer facility for stabilization and transfer is the best option for accessing definitive care. Patients sustaining severe injuries in rural environments might need immediate assessment and stabilization before a long-distance transport to a trauma center. In addition, evaluation of the patient might bring to light severe injuries for which needed care exceeds the resources of the initial receiving facility. Some patients might have specific needs that can be addressed at relatively few centers within a region (for example, pediatric trauma, burns, severe TBI, SCI, and reimplantation). Finally, temporary resource limitations might necessitate the transfer of patients between acute care facilities.

Secondary triage at the initial receiving facility has several advantages in systems with a large rural or suburban component. The ability to assess patients at non-designated or level III to V centers provides an opportunity to limit the transfer of only the most severely injured patients to level I or II facilities, thus preserving a limited resource for patients most in need. It also provides patients with lesser injuries the possibility of being cared for within their community.

The decision to transfer a trauma patient should be based on objective, prospectively agreed-on criteria. Established transfer criteria and transfer agreements will minimize discussions about individual patient transfers, expedite the process, and ensure optimal patient care. Delays in transfer might increase mortality, complications, and length of stay. A system with an excess of transferred patients might tax the resources of the regional trauma facility. Conversely, inappropriate retention of patients at centers without adequate

facilities or expertise might increase the risk of adverse outcomes. Given the importance of timely, appropriate interfacility transfers, the time to transfer, as well as the rates of primary and secondary overtriage and undertriage, should be evaluated on a regular basis, and corrective actions should be instituted when problems are identified. Data derived from tracking and monitoring the timeliness of access to a level of trauma care commensurate with injury type and severity should be used to help define optimal system configuration.

A central communications center with real-time access to information on system resources greatly facilitates the transfer process. Ideally, this center identifies a receiving facility, facilitates dialogue between the transferring and receiving centers, and coordinates interfacility transport.

To ensure that the system operates at the greatest efficiency, it is important that patients are repatriated back to community hospitals once the acute phase of trauma care is complete. The process of repatriation opens up the limited resources available to care for severely injured patients. In addition, it provides an opportunity to bring patients back into their local environment where their social network might help reintegrate patients into their community.

OPTIMAL ELEMENTS

I. The trauma system is supported by an EMS system that includes communications, medical oversight, prehospital triage, and transportation; the trauma system, EMS system, and public health agency are well integrated. **(B-302)**

a. There are mandatory systemwide prehospital triage criteria to ensure that trauma patients are transported to an appropriate facility based on their injuries. These triage criteria are regularly evaluated and updated to ensure acceptable and system-defined rates of sensitivity and specificity for appropriately identifying a major trauma patient. **(I-302.6)**

b. There is a universal access number for citizens to access the EMS/trauma system, with dispatch of appropriate medical resources. There is a central communications system for the EMS/trauma system to ensure field-to-facility bidirectional communications, interfacility dialogue, and all-hazards response communications among all system participants. **(I-302.7)**

c. There is a procedure for communications among medical facilities when arranging for interfacility transfers, including contingencies for radio or telephone system failure. **(I-302.9)**

II. Acute care facilities are integrated into a resource-efficient, inclusive network that meets required standards and that provides optimal care for all injured patients. **(B-303)**

a. When injured patients arrive at a medical facility that cannot provide the appropriate level of definitive care, there is an organized and regularly monitored system to ensure that the patients are expeditiously transferred to the appropriate system-defined trauma facility. **(I-303.4)**

CURRENT STATUS

In Alaska, prehospital trauma care and patient triage is highly variable and dependent on location of injury, regional resources and local protocols. As stated in the PRQ:

> *"There are no statewide protocols for prehospital triage. The Trauma Triage, Transport & Transfer Guidelines developed by the Trauma System Planning and Development Task Force in 1993 and revised in 2002, offers guidelines to assist local EMS agencies and hospitals in developing local protocols. The protocols themselves are developed locally and approved by their medical director."*

Trauma care delivery (as most health care in Alaska) is closely tied to geographic location which dictates resources, communication, and transportation. At least three distinct areas are identified based on models of trauma care delivery:

- *Bush area:* these remote areas are geographically isolated and have unique challenges including weather, no roads, and basic health care capabilities with few hospitals.

- *Anchorage area:* this urban environment is the major population center of the state and has several acute care hospitals, advanced infrastructure, and system redundancy in several segments. It is the primary health care referral area for the state for all Alaskans.

- *Southeast:* this area has intermediate capabilities compared to the 2 areas listed above and has a special relationship with Harborview Medical Center (Level I trauma center) in Seattle.

In addition to the geographic differentiation mentioned above, Alaska health care delivery can also be viewed in the context of populations (excluding the military):

- Native Alaskans: health care delivery to this population occurs across all geographic regions and is organized and administered by Alaska Tribal Health System/ Alaska Native Tribal Health Consortium, an integrated network of facilities and providers that deliver care to Native Alaskans as defined beneficiaries.

- Alaskans: health care delivery to this population occurs along more typical lines and involves a variety of hospitals and providers in varying density dependent on location and funding source.

Care to Native Alaskans and other Alaskans in the bush is overlapping, as many Alaskans receive primary and emergency care in Alaska Native clinics and hospitals when they are the only resources available. To a degree, some overlapping of trauma care for Native Alaskans and other Alaskans occurs within the Anchorage hospitals when by-pass or diversion causes a trauma patient to be directed to Alaska Native Medical Center or one of the non-certified/designated hospitals.

Many remote areas of the state are faced with unique challenges in the provision of trauma care. Providers and facilities have demonstrated creativity and resourcefulness in their attempt to overcome the problems of distance, limited resources, and communication challenges. This innovation and flexibility is to be commended, and it has been valuable and necessary.

In the more urban regions, such as Anchorage, the transition to more organized, efficient and coordinated systems of patient flow has not been complete. This has been reflected in frustrations expressed by local EMS services, referring physicians from outlying facilities, and members of the local physician provider community. Physicians described the problem of making multiple calls for transfer of a patient to an Anchorage hospital. In some cases Anchorage is by-passed and the patient is sent to Seattle. While there are two pediatric intensive care units in Anchorage hospitals, beds are sometimes unavailable, and children are sometimes sent to Seattle as well.

The situation is further complicated by the co-existence in the Anchorage area of a higher level of organized trauma care at the Alaska Native Medical Center (including a pediatric ICU), while the private not-for-profit hospitals (Providence Alaska Medical Center and Alaska Regional Hospital) maintain non-certified/designated trauma care facilities. All three hospitals serve as regional referral facilities for large areas of the state with Providence Alaska Medical Center receiving the largest volume of patients, including pediatrics. Local EMS as well as referring facilities throughout the state are faced with at least two differing sets of referral guidelines and triage criteria (for Native Alaskans and other Alaskans), as well as varying abilities to provide care to special populations (including burns, pediatrics, and vascular surgery).

In addition to the lack of statewide triage protocols, the flow of patients within the major treating facilities varies greatly. Available trauma registry data from 2006 show that at the designated Level II hospital, Alaska Native Medical Center, the majority of patients are admitted to surgical services. In contrast, at hospitals serving Alaskans, such as Providence Alaska Medical Center, which has the largest trauma patient volume, substantial numbers of patients are admitted to

non-surgical services. With the increase in hospital-based medical specialists (e.g., hospitalists), these trends are likely to have become pronounced. The care of trauma patients on non-surgical services without an organized trauma service is inconsistent with national guidelines, and it likely contributes to inferior outcomes such as longer ICU and hospital stays, higher complication and mortality rates, lower patient and provider satisfaction scores, and increased costs.

Significant divergence of opinion is apparent among providers at the private nonprofit hospitals in Anchorage regarding the need for, and value of, trauma center certification/designation and an organized trauma system. Emergency physicians expressed the opinion that they are able to deliver all aspects of initial care and obtain prompt surgical support, as well as the opinion that there were significant deficiencies in the availability and involvement of surgical specialists. As noted above, EMS services and referring physicians at outlying facilities participating in the TSC supported the latter perspective. Surgeons also expressed divided opinions regarding trauma center designation – surgeons at designated trauma centers are supportive while those at the non-designated facilities expressed serious concerns. Participants indicated that the provision of financial support for on-call responsibilities would facilitate the participation of private surgeons in meeting the certification/designation standards. The support of these groups of physicians would likely facilitate improvements in system coordination and patient flow.

It is recognized that Harborview Medical Center in Seattle provides important referral care for Alaska, especially for special populations (e.g., pediatrics, burns, reimplantation, and rehabilitation). Patient flow to Harborview appears to be relatively straightforward thanks to significant efforts by the receiving facility to treat Alaska patients preferentially and by the placement of fixed-wing aircraft in Southeast Alaska.

Within the state there are 79 ground ambulance units, 19 primarily fixed-wing air services, as well as civilian, Coast Guard, and military helicopters. Many of these units function under very difficult circumstances and succeed because of experience and innovation. No central coordinating agency or mechanism to manage these resources exists, and no easily accessible resource describing runways and equipment that can be used in each location is available.

Repatriation rarely occurs in this system, particularly for patients treated in Seattle.

RECOMMENDATIONS

- **Implement standardized prehospital triage and trauma activation protocols customized to the three response areas (Anchorage, Southeast, and the bush).**

- Preserve the flexibility and encourage the innovation for trauma care that exists in the remote regions of the state.
- Develop an online resource describing available patient transport resources across the state.
- Encourage the adoption of standardized, evidence-based, in-hospital trauma team activation protocols.
- Develop inter-facility transfer criteria to ensure that patients with specialized needs are sent to facilities with matching resources.
- Maintain the existing effective relationship with Harborview Medical Center and develop strategies to improve Medicaid funding for transfers.

Purpose and Rationale

As an integral component of the trauma system, rehabilitation services in acute care and rehabilitation centers provide coordinated care for trauma patients who have sustained severe or catastrophic injuries, resulting in long-standing or permanent impairments. Patients with less severe injuries may also benefit from rehabilitative programs that enhance recovery and speed return to function and productivity. The goal of rehabilitative interventions is to allow the patient to return to the highest level of function, reducing disability and avoiding handicap whenever possible. The rehabilitation process should begin in the acute care facility as soon as possible, ideally within the first 24 hours. Inpatient and outpatient rehabilitation services should be available. Rehabilitation centers should have CARF (Commission of Accreditation of Rehabilitation Facilities) accreditation for comprehensive inpatient rehabilitation programs, and accreditation of specialty centers (SCI and TBI) should be strongly encouraged.

The trauma system should conduct a rehabilitation needs assessment (including specialized programs in SCI, TBI, and for children) to identify the number of beds needed and available for rehabilitation in the geographic region. Rehabilitation specialists should be integrated into the multidisciplinary advisory committee to ensure that rehabilitation issues are integrated into the trauma system plan. The trauma system should demonstrate strong linkages and transfer agreements between designated trauma centers and rehabilitation facilities located in its geographic region (in or out of state). Plans for repatriation of patients, especially when rehabilitation centers across state lines are used, should be part of rehabilitation system planning. Feedback on functional outcomes after rehabilitation should be made available to the trauma centers.

OPTIMAL ELEMENTS

I. The lead agency ensures that adequate rehabilitation facilities have been integrated into the trauma system and that these resources are made available to all populations requiring them. **(B-308)**

a. The lead agency has incorporated, within the trauma system plan and the trauma center standards, requirements for rehabilitation services, including interfacility transfer of trauma patients to rehabilitation centers. **(I-308.1)**

b. Rehabilitation centers and outpatient rehabilitation services provide data on trauma patients to the central trauma system registry that include final disposition, functional outcome, and rehabilitation costs and also participate in performance improvement processes. **(I-308.2)**

II. A resource assessment for the trauma system has been completed and is regularly updated. **(B-103)**

a. The trauma system has completed a comprehensive system status inventory that identifies the availability and distribution of current capabilities and resources. **(I-103.1)**

CURRENT STATUS

While rehabilitation resources are available in Alaska, they are relatively limited in scope and capacity. The 20 inpatient rehabilitation beds in Alaska are all in the Anchorage (10 at Alaska Regional Hospital and 10 at Providence Alaska Medical Center). No pediatric rehabilitation beds for children under age 14 years exist in the state. Limited individual outpatient rehabilitation programs exist to support defined patient groups (e.g., traumatic brain injury [TBI]) at hospitals and in the community.

Patients with traumatic brain injury (adult and children 14 years and older) commonly utilize these rehabilitation beds in Anchorage, while most patients with spinal cord injury (SCI) are sent to spinal cord rehabilitation facilities in the lower 48 states. It was reported that patients wait approximately two days for an inpatient rehabilitation bed for TBI, and about 20 days for SCI; however this varies by patient status and availability of a funding source.

Harborview Medical Center in Seattle, WA provides significant support for rehabilitation services to injured patients from Alaska, including pediatric patients. This relationship is longstanding and well-developed, especially with acute care facilities in the Southeastern Alaska. Because Alaska Medicaid reimbursement rates are reportedly lower than Washington Medicaid rates, much of the care provided to patients with Alaska Medicaid transferred to Seattle is uncompensated or undercompensated.

Repatriation of patients transferred to rehabilitation centers is difficult and complicated by many variables (e.g., the cost of travel home, finding a physician to assume care responsibility). It was reported that patients transported out-of-state for rehabilitation frequently do not return to Alaska and that patients who are brought to Anchorage for rehabilitation services are likely to remain in the area.

No state data are available to evaluate the status of rehabilitation in Alaska. No needs assessment has been conducted to identify the rehabilitation needs of trauma patients in the state. Few data describe utilization, ultimate outcomes and dispositions of trauma patients requiring rehabilitation services. It is not clear that efforts are being made to include rehabilitation data and patient outcomes in the state trauma registry.

No rehabilitation specialist (physiatrist) sits on the TSRC.

RECOMMENDATIONS

- Include rehabilitation outcomes in the trauma registry.
- Perform a needs assessment for rehabilitation of trauma patients in Alaska.
- Develop a comprehensive plan to provide a continuum of rehabilitation services from acute care settings to inpatient rehabilitation to outpatient services, especially for traumatic brain injury, spinal cord injury, and pediatric trauma.
- Appoint a rehabilitation specialist to membership in the newly formed Alaska Trauma Advisory Committee (ATAC).
- Encourage rehabilitation centers to attain CARF (Commission of Accreditation of Rehabilitation Facilities) accreditation.
- Evaluate repatriation options for patients transferred to Anchorage or out-of-state.

Purpose and Rationale

As critically important resources for state, regional, and local responses to MCIs, the trauma system and its trauma centers are central to disaster preparedness. Trauma system leaders need to be actively involved in public health preparedness planning to ensure that trauma system resources are integrated into the state, regional, and local disaster response plans. Acute care facilities (sometimes including one or more trauma centers) within an affected community are the first line of response to an MCI. However, an MCI may result in more casualties than the local acute care facilities can handle, requiring the activation of a larger emergency response plan with support provided by state and regional assets.

For this reason, the trauma system and its trauma centers must conduct a resource assessment of its surge capacity to respond to MCIs. The resource assessment should build on and be coupled to a hazard vulnerability analysis. An assessment of the trauma system's response to simulated incident or tabletop drills must be conducted to determine the trauma system's ability to respond to MCIs. Following these assessments, a gap analysis should be conducted to develop statewide MCI response resource standards. This information is essential for the development of an emergency management plan that includes the trauma system.

Planning and integration of the trauma system with plans of related systems (public health, EMS, and emergency management) are important because of the extensive impact disasters have on the trauma system and the value of the trauma system in providing care. Relationships and working cooperation between the trauma system and public health, EMS, and emergency management agencies support the provision of assets that enable a more rapid and organized disaster response when an event occurs. For example, the EMS emergency preparedness plan needs to include the distribution of severely injured patients to trauma centers, when possible, to make optimal use of trauma center resources. This plan could optimize triage through directing less severely injured patients to lower level trauma centers or nondesignated facilities, thus allowing resources in trauma centers to be spared for patients with the most severe injuries. In addition, the trauma system and its trauma centers will be targeted to receive additional resources (personnel, equipment, and supplies) during major MCIs.

Mass casualty events and disasters are chaotic, and only with planning and drills will a more organized response be possible. Simulation or tabletop drills provide an opportunity to test the emergency preparedness response plans for the trauma system and other systems and to train the teams that will respond. Exercises must be jointly conducted with other agencies to ensure that all aspects of the response plan have the trauma system integrated.

OPTIMAL ELEMENTS

I. An assessment of the trauma system's emergency preparedness has been completed, including coordination with the public health agency, EMS system, and the emergency management agency. **(B-104)**

a. There is a resource assessment of the trauma system's ability to expand its capacity to respond to MCIs in an all-hazards approach. **(I-104.1)**

b. There has been a consultation by external experts to assist in identifying current status and needs of the trauma system to be able to respond to MCIs. **(I-104.2)**

c. The trauma system has completed a gap analysis based on the resource assessment for trauma emergency preparedness. **(I-104.3)**

II. The lead agency ensures that its trauma system plan is integrated with, and complementary to, the comprehensive mass casualty plan for natural and manmade incidents, including an all-hazards approach to planning and operations. **(B-305)**

a. The EMS, the trauma system, and the all-hazards medical response system have operational trauma and all-hazards response plans and have established an ongoing cooperative working relationship to ensure trauma system readiness for all-hazards events. **(I-305.1)**

b. All-hazards events routinely include situations involving natural (for example, earthquake), unintentional (for example, school bus crash), and intentional (for example, terrorist explosion) trauma-producing events that test the expanded response capabilities and surge capacity of the trauma system. **(I-305-2)**

c. The trauma system, through the lead agency, has access to additional equipment, materials, and personnel for large-scale traumatic events. **(I-305.3)**

CURRENT STATUS

Alaska has an active geological environment with frequent earthquakes, extensive volcano eruptions, huge avalanches, periodic flooding and large expanses of fresh and salt water, all of which invite potential disaster. Two-thirds of Alaska is without roads and Alaskans are dependent on air travel for routine and emergent travel. Communication capabilities and disaster resources decrease as distance from population centers increases.

The lead agency for disaster preparedness is the Division of Emergency Services which resides within the Department of Military and Veterans Affairs, Division of Homeland Security and Emergency Management. The DHSS has primary functional responsibility for mass casualty events. Both agencies recognize the need for an effective trauma system as an integral component of disaster capability.

A recent full scale exercise, Alaska Shield/Northern Edge 2007 demonstrated strengths that included effective local interoperable communications equipment. However this interoperability does not necessarily transfer to the majority of the state. Weaknesses identified were lack of coordination of air transports and local/state/military resources, as well as lack of interagency coordination for resource requests and allocation during mass casualty events.

The state has no registry for volunteer medical providers, except for the Alaska Board of Nursing that maintains a registry of nurses who would volunteer to respond to a disaster. There are two Medical Reserve Corps in Alaska, but they are not functional due to lack of funding.

Some EMS providers have received disaster training, but they are not required to obtain or maintain such training.

RECOMMENDATIONS

- **Integrate all components of the trauma system into state and local disaster planning activities.**
- Perform a detailed statewide communication assessment.
- Provide basic all-hazards disaster training for all prehospital providers that can be delivered via a variety of formats.

Purpose and Rationale

The trauma lead agency has responsibility for instituting processes to evaluate the performance of all aspects of the trauma system. Key aspects of systemwide effectiveness include the outcomes of population based injury prevention initiatives, access to care, as well as the availability of services, the quality of services provided within the trauma care continuum from prehospital and acute care management phases through rehabilitation and community reintegration, and financial impact or cost. Intrinsic to this function is the delineation of valid, objective metrics for the ongoing quality audit of system performance and patient outcomes based on sound benchmarks and available clinical evidence. Trauma management information systems (MISs) must be available to support data collection and analysis.

The lead agency should establish forums that promote inclusive multidisciplinary and multiagency review of cases, events, concerns, regulatory issues, policies, procedures, and standards that pertain to the trauma system. The evaluation of system effectiveness must take into account the integration of these various components of the trauma care continuum and review how well personnel, agencies, and facilities perform together to achieve the desired goals and objectives. Results of customer satisfaction (patient, provider, and facility) appraisals and data indicative of community and population needs should be considered in strategic planning for system development. System improvements derived through evaluation and quality assurance activities may encompass enhancements in technology, legislative or regulatory infrastructure, clinical care, and critical resource availability.

To promote participation and sustainability, the lead agency should associate accountability for achieving defined goals and trauma system performance indicators with meaningful incentives that will act to cement the support of key constituents in the health care community and general population. For example, the costs and benefits of the trauma system as they relate to reducing mortality or decreasing years of productive life lost may make the value of promoting trauma system development more tangible. A facility that achieves trauma center verification/designation may be rewarded with monetary compensation (for example, ability to bill for trauma activation fees) and the ability to serve as a receiving center for trauma patients. The trauma lead agency should promote ongoing dialog with key stakeholders to ensure that incentives remain aligned with system needs.

OPTIMAL ELEMENTS

I. The trauma MIS is used to facilitate ongoing assessment and assurance of system performance and outcomes and provides a basis for continuously improving the trauma system, including a cost-benefit analysis. **(B-301)**

a. The lead trauma authority ensures that each member hospital of the trauma system collects and uses patient data, as well as provider data, to assess system performance and to improve quality of care. Assessment data are routinely submitted to the lead trauma authority. **(I-301.1)**

II. The jurisdictional lead agency, in cooperation with other agencies and organizations, uses analytic tools to monitor the performance of population based prevention and trauma care services. **(B-304)**

III. The financial aspects of the trauma system are integrated into the overall performance improvement system to ensure ongoing fine tuning and cost-effectiveness. **(B-309)**

a. Financial data are combined with other cost, outcome, or surrogate measures, for example, years of potential life lost, quality-adjusted life years, and disability adjusted life years; length of stay; length of intensive care unit stay; number of ventilator days; and others, to estimate and track true system costs and cost- benefits. **(I-309.4)**

CURRENT STATUS

According to the PRQ, the TSRC is charged with "ongoing monitoring and evaluating of the trauma system". Even though the actions of the TSRC are exempt from discovery, it is unclear that the TSRC has truly been empowered or authorized to perform its system evaluation and quality improvement functions. No clear line of authority could be identified in provided documentation for the TSRC to recommend or impose system change. The PRQ illustrates this challenge in the following statement:

> "The TSRC has reported findings to the Lead Agency, ACEMS and liaisons, EMS regional coordinators, and trauma care providers via the Annual EMS Symposium... In special circumstances, such as the advancement of a Trauma System Improvement Act, members of the TSRC have shared information with legislators... The TSRC may make recommendations to the Lead Agency and constituent members of the trauma system".

The uncertainty of lines of authority is further exacerbated by the fact that the TSRC formally operates under the aegis of the Alaska State Medical Board.

When asked about specific evaluation and quality assurance processes, the stakeholders present acknowledged that they have neither determined Alaska's preventable mortality rate nor quantified the opportunities for improvement by phase of care.

The TSRC has made significant contributions to the standardization of care through the development of documents such as "Guidelines for the Management and Transfer of Head Injury Patients in Remote and Rural Alaska". However, the impact of this and other guidelines has not been monitored, and adherence to the guidelines was reported as variable. There has not been "loop closure" on these efforts.

The TSRC identified nine indicators of interest and initiated efforts to examine the data necessary to determine the status of those indicators. However, during the first pass of the data, it was reported that the data were of insufficient quality to answer the questions posed by the indicator. Additional data cleaning was needed.

While it was reported that a major impediment to system evaluation and quality assurance was either the lack or quality of data, the ACS team was able to request and receive trauma registry data (2006) that was sufficiently detailed to engage in rudimentary evaluation processes, e.g., stratification of trauma patients by facility and by ISS. While the data are aging, these data serve as a fundamental building block of a system evaluation process.

RECOMMENDATIONS

- **Develop an initial set of 3-5 statewide system performance indicators from among the list of 9 provided in the Pre-Review Questionnaire (PRQ).**
- Examine available data points and definitions, and develop indicators for performance improvement that can be determined on the basis of those data points.
- Formally review the data associated with each indicator on a quarterly to annual basis and start a benchmarking process.
- Report the results of all evaluation and quality assurance processes in an annual report that is presented to all system stakeholders, including the new Alaska Trauma Advisory Committee (ATAC) and Alaska Council on Emergency Medical Services (ACEMS).

Purpose and Rationale

Hospital-based trauma registries developed from the idea that aggregating data from similar cases may reveal variations in care and ultimately result in a better understanding of the underlying injury and its treatment. Hospital-based registries have proven very effective in improving trauma care within an institution but provide limited information regarding how interactions with other phases of health care influence the outcome of an injured patient. To address this limitation, data from hospital-based registries should be collated into a regional registry and linked such that data from all phases of care (prehospital, hospital, and rehabilitation) are accessible in 1 data set. When possible, these data should be further linked to law enforcement, crash incident reports, ED records, administrative discharge data, medical examiner records, vital statistics data (death certificates), and financial data. The information system should be designed to provide systemwide data that allow and facilitate evaluation of the structure, process, and outcomes of the entire system; all phases of care; and their interactions. This information should be used to develop, implement, and influence public policy.

The lead agency should maintain oversight of the information system. In doing so, it must define the roles and responsibilities for agencies and institutions regarding data collection and outline processes to evaluate the quality, timeliness, and completeness of data. There must be some means to ensure patient and provider confidentiality is in keeping with federal regulations. The agency must also develop policies and procedures to facilitate and encourage injury surveillance and trauma care research using data derived from the trauma MIS. There are key features of regional trauma MISs that enhance their usefulness as a means to evaluate the quality of care provided within a system. Patient information collected within the management system must be standardized to ensure that noted variations in care can be characterized in a similar manner across differing geographic regions, facilities, and EMS agencies. The composition of patients and injuries included in local registries (inclusion criteria) should be consistent across centers, allowing for the evaluation of processes and outcomes among similar patient groups. Many regions limit their information systems to trauma centers. However, the optimal approach is to collect data from all acute care facilities within the region. Limiting required data submission to hospitals designated as trauma centers allows one to evaluate systems issues only among patients transported to appropriate facilities. It is also important to have protocols in place to ensure a uniform approach to data abstraction and collection. Research suggests that if the process of case abstraction is not routinely calibrated, practices used by abstractors begin to drift.

Finally, every effort should be made to conform to national standards defining processes for case acquisition, case definition (that is, inclusion criteria), and registry coding conventions. Two such national standards include the National Highway Traffic Safety Administration's National Emergency Medical Services Information System (NEMSIS), which standardizes EMS data collection, and the American College of Surgeons National Trauma Data Standard, which addresses the standardization of hospital registry data collection. Strictly adhering to national standards markedly increases the value of state trauma MISs by providing national benchmarks and allowing for the use of software solutions that link data sets to enable a review of the entire injury and health care event for an injured patient.

To derive value from the tremendous amount of effort that goes into data collection, it is important that a similar focus address the process of data reporting. Dedicated staff and resources should be available to ensure rapid and consistent reporting of information to vested parties with the authority and vision to prevent injuries and improve the care of patients with injuries. An optimal information reporting process will include standardized reporting tools that allow for the assessment of temporal and/or system changes and a dynamic reporting tool, permitting anyone to tailor specific "views" of the information.

OPTIMAL ELEMENTS

I. There is an established trauma MIS for ongoing injury surveillance and system performance assessment. **(B-102)**

a. There is an established injury surveillance process that can, in part, be used as an MIS performance measure. **(I-102.1)**

b. Injury surveillance is coordinated with statewide and local community health surveillance. **(I-102.2)**

c. There is a process to evaluate the quality, timeliness, completeness, and confidentiality of data. **(I-102.4)**

d. There is an established method of collecting trauma financial data from all health care facilities and trauma agencies, including patient charges and administrative and system costs. **(I-102.5)**

II. The trauma MIS is used to facilitate ongoing assessment and assurance of system performance and outcomes and provides a basis for continuously improving the trauma system, including a cost-benefit analysis. **(B-301)**

a. The lead trauma authority ensures that each member hospital of the trauma system collects and uses patient data, as well as provider data, to assess system performance and to improve quality of care. Assessment data are routinely submitted to the lead trauma authority. **(I-301.1)**

b. Prehospital care providers collect patient care and administrative data for each episode of care and not only provide these data to the hospital, but also have a mechanism to evaluate the data within their own agency, including monitoring trends and identifying outliers. **(I-301.2)**

c. Trauma registry, ED, prehospital, rehabilitation, and other databases are linked or combined to create a trauma system registry. **(I-301.3)**

d. The lead agency has available for use the latest in computer/technology advances and analytic tools for monitoring injury prevention and control components of the trauma system. There is reporting on the outcome of implemented strategies for injury prevention and control programs within the trauma system. **(I-301.4)**

CURRENT STATUS

The State of Alaska has worked diligently over several decades to develop, maintain, and improve a systemwide trauma registry. This has meant an evolutionary process involving at least two vendors and substantial challenges in linking disparate computer languages that exist in the Native Alaskan and other Alaskan record keeping systems. The State is to be commended for its persistence in this regard.

The lead agency maintains a full-time trauma registrar which represents, in fact, the most significant personnel commitment dedicated to the trauma program. Funds to support this position come from external sources (NIOSH).

Currently all hospitals contribute to the statewide trauma registry. For the larger facilities, this involves electronic data transfer. However, for the smaller facilities, the process involves on-site abstraction of records, completion of a data abstract summary, and manual input into the system. A contract employee is assigned the responsibility of facilitating this process. She described multiple challenges at some of the smaller hospitals, such as limited personnel resources for abstracting, enormous travel distances and costs for her to visit the hospitals, a reluctance by the hospitals to ask for or accept consultative help, and persistent turnover of data registrars at the hospitals. These challenges result in a significant delay (up to 2 years) in acquiring trauma data from all acute care facilities. In some cases, the consultant performs data abstraction at some of the smaller hospitals in an effort to get data submission caught up.

A second contract employee is used to clean and validate the data. She demonstrated significant adeptness with the system registry data by fulfilling several requests of the ACS team during their deliberations. For example, she was able to easily stratify injury severity by hospital and track transfers in an out of each facility. The contract employees are responsible for an annual training of trauma registrars.

During the discussion of the management information system, it was revealed that recently a new trauma registry vendor has received the Alaska contract. There was substantial discordance with the manner in which the vendor was selected, with the end-users (e.g., registrars, trauma managers, trauma directors, and the TSRC) having little to no input into the process. While data input into the new system is tentatively scheduled to begin January 1, 2009, concern was expressed by participants that during the transition period there was the potential for data to be delayed or, perhaps, even lost. Several participants suggested that they might maintain their current system in lieu of using the newly acquired system.

One of the perceived advantages of the new trauma system is that it can, and will, be linked with electronic prehospital data since the same vendor holds a single contract for the provision of both systems. The effectiveness of this linkage could not be fully ascertained at the time of the ACS visit since the systems were only then "coming on-line". However, it is important to note that similar efforts by other states to link the trauma registry and prehospital data systems have not been universally successful, even when the same vendor has been used for each system. The IPEMS Section will need to work closely with the vendor to monitor progress in meeting contract expectations. The state is to be commended for obtaining a grant that will enable to the lead agency to perform additional linkage with other, free standing, data sets such as the traffic crash database.

Alaska has a data rich environment. Numerous other databases exist and have been used for epidemiologic and prevention activities. However, they have only been used in a limited capacity to help steer and manage the trauma system.

Specific policies and procedures have been developed by the TSRC concerning the release of trauma registry data. Several researchers have accessed the data system following these guidelines.

RECOMMENDATIONS

- **Ensure that all elements considered essential to system development, evaluation and performance improvement in the State of Alaska are evident and working in the new trauma registry and are consistent with the National Trauma Data Standard (NTDS) definitions.**
    - This should be tasked to a peer review protected subcommittee, (e.g. the Trauma System Review Committee) of the Alaska Technical Advisory Committee (ATAC), in collaboration with the trauma registrar, trauma registrar contract employees, and the vendor.
- Safeguard the legacy data by maintaining the current software system separately and discretely from the new system until a legacy data transfer has occurred and validation queries have been completed.

- Minimize gaps and delays in data during the trauma registry transition process by maintaining dual systems until the transfer of legacy and concurrent data has been completed and validated.
- Establish mechanisms for capturing data from remote facilities in a timely manner, e.g., provide scanners and/or encrypted methods of electronic transmission of records in lieu of travel to each facility.
- Submit statewide trauma registry data to the National Trauma Data Bank (NTDB) on an annual basis.
- Achieve linkage and integration with other data sets, specifically, prehospital and hospital discharge data (UB.92/04).
- Use existing data, beginning immediately, for system development and quality improvement activities, in spite of its acknowledged imperfections.
- Provide reports on at least a quarterly basis to all stakeholders.

Purpose and Rationale

Overview of Research Activity

Trauma systems are remarkably diverse. This diversity is simply a reflection of authorities tailoring the system to meet the needs of the region based on the unique combination of geographic, economic, and population characteristics within their jurisdiction. In addition, trauma systems are not fixed in their organization or operation. The system evolves over years in response to lessons learned, critical review, and changes in population demographics. Given the diversity of organization and the dynamic nature of any particular system, it is valuable when research can be conducted that evaluates the effectiveness of the regional or statewide system. Research drives the system and will provide the foundation for system development and performance improvement. Research findings provide value in defining best practices and might alter system development. Thus, the system should facilitate and encourage trauma-related research through processes designed to make data available to investigators. Competitive grants or contracts made available through lead authorities or constituencies should provide funds to support research activities. All system components should contribute to the research agenda. The extent to which research activities are required should be clearly outlined in the trauma system plan and/or the criteria for trauma center designation.

The sources of data used for research might be institutional and regional trauma registries. As an alternative, population-based research might provide a broader view of trauma care within the region. Primary data collection, although desirable, is expensive but might provide insights into system performance that might not be otherwise available.

Trauma Registry–based Research

Investigators examining trauma systems can use the information recorded in trauma registries to great advantage to determine the prevalence and annual incidence rate of injuries, patterns of care that occur to injured patients in the system's region, and outcomes for the patients. These data can be compared with standards available from other trauma registries, such as the NTDB. Such comparisons can then enable investigators to determine if care within their region is within standards and can allow for benchmarking. Initiating and sustaining injury prevention initiatives is a vital goal in mature trauma systems. Investigators can take a leadership role in performing research using trauma registry data that identify emerging threats and instituting public health measures to mitigate the threats. For example, a recent surge in death and disability related to off -road

vehicles can be identified and the scope of the problem defined in terms of who, where, and how riders are injured, and then, through presentations and publications, the public can be informed of a new threat.

Trauma system administrators have a responsibility to control investigators' access to the registry. The integrity and reliability of data in a trauma systems registry are essential if accurate research and valid conclusions are to be reached using the data. Trauma system administrators should have a process that screens data entered into the system's composite registry from individual institutions. There should be a mechanism that ensures that the information is stored in a secure manner. Investigators who seek access to the trauma registry must follow a written policy and procedure that includes approval by an authorized institutional review board. Trauma registry data may include unique identifiers, and system administrators must ensure that patient confidentiality is respected, consistent with state and federal regulations.

Population-based Trauma System Research

A major disadvantage of using only trauma registry data to conduct research that evaluates injured patients in a region is the bias resulting from missing data on patients not treated at trauma centers. Specifically, most registry data are restricted to information from hospitals that participate in the trauma system. Although ideally all facilities participate in the form of an inclusive system, many systems do not attain this goal. Thus, a population-based data set provides investigators with the full spectrum of patients, irrespective of whether they have been treated in trauma centers or nondesignated centers or were never admitted to the hospital owing to death at the scene of incident or because their injuries were insufficiently severe to require admission. The state and national hospital discharge databases are examples of population-based data. These discharge databases contain information that was abstracted from medical records for billing purposes by hospital employees who enter these data into an electronic database. For investigators seeking a wider perspective on the care of injured patients in their region, these more inclusive data sets, compared with registries, are essential tools. Other population based data that may be of help include mortality vital statistics data recorded in death certificates. Selected regions might have outpatient data to capture patients who are assessed in the ED and then released.

Investigators can use these population-based data to study the influence of a regional trauma system on the entire spectrum of patients within its catchment area.

Participation in Research Projects and Primary Data Collection

Multi-institutional research projects are important mechanisms for learning new knowledge that can guide the care of injured patients. Investigators within trauma systems can participate as co-investigators in these projects. Investigators can participate by recruiting patients into prospective studies, being leaders in the design and administration of grants, and preparing manuscripts and reports. Evidence of this collaboration is that investigators within a trauma system are recognized in announcements of grants or awards. Lead agency personnel should identify and reach out to resources within the system with research expertise. These include academic centers and public health agencies.

Measures of Research Activity

Research can be broadly defined as hypothesis-driven data analysis. This analysis leads the investigators to a conclusion, which might become a recommendation for system change. Full manuscripts published in peer reviewed research journals are an exemplary form of research activity. Research reported in annual reviews or in public information formats intended to inform the trauma system's constituency can also be considered legitimate research activity.

OPTIMAL ELEMENTS

I. The trauma MIS is used to facilitate ongoing assessment and assurance of system performance and outcomes and provides a basis for continuously improving the trauma system, including a cost-benefit analysis. **(B-301)**

a. The lead agency has available for use the latest in computer/technology advances and analytic tools for monitoring injury prevention and control components of the trauma system. There is reporting on the outcome of implemented strategies for injury prevention and control programs within the trauma system. **(I-301.4)**

II. The lead agency ensures that the trauma system demonstrates prevention and medical outreach activities within its defined service area. **(B-306)**

a. The trauma system has developed mechanisms to engage the general medical community and other system participants in their research findings and performance improvement efforts. **(I-306.1)**

b. The effect or impact of outreach programs (medical community training/support and prevention activities) is evaluated as part of a system performance improvement process. **(I-306.3)**

III. To maintain its state, regional, or local designation, each hospital will continually work to improve the trauma care as measured by patient outcomes. **(B-307)**

a. The trauma system implements and regularly reviews a standardized report on patient care outcomes as measured against national norms. **(I-307.2)**

CURRENT STATUS

A specific research agenda has not been developed for the Alaska trauma system. However, a reasonable representation of trauma-related literature can be found using an electronic medical literature search. Several articles use the trauma registry as a basis of data. Unfortunately, most of the articles are aging. Several are published in *Alaska Medicine*, which reportedly is changing from a quarterly publication to an annual publication.

A wealth of scientific and technical publications has been produced in the Alaska injury prevention literature. Again several of these publications use trauma registry data, at least partially, as a basis for the publications.

The University of Alaska – Anchorage currently offers a Master of Public Health (MPH) degree within its Department of Health Sciences. Linkages between the MPH program and the trauma system were not discussed. The lead agency has direct access to a staff epidemiologist.

RECOMMENDATIONS

- Establish a collaborative relationship between the University of Alaska-Anchorage's public health program and the lead agency's epidemiologist and the Alaska Trauma Advisory Committee (ATAC).

- Develop, jointly, a research agenda that can build on the current trauma registry data and expand to include more rigorous research projects.

- Attempt to minimize Institutional Review Board approval challenges while still maintaining full protection of any/all subjects.

Focus Questions

1. How can Alaska attain full participation of hospitals in the statewide trauma system?

Trauma centers and trauma systems have been demonstrated to decrease mortality following injury.[1,2,3] All of the acute care hospitals in Alaska are currently providing care for injured patients. However; trauma patients in Alaska who are not Native Alaskans do not have routine access to a verified/designated Level I or II trauma center. A trauma system will fully attain the benefits of improved patient care and superior outcomes only when all facilities institute and follow evidence-based guidelines to decrease variability in care and deviations from the standard of care. Central to this evolution is the implementation of a rigorous, multidisciplinary performance improvement program. A coordinated system of trauma care within acute care facilities accomplishes the following:

- improved communications,
- streamlined coordination of care issues,
- increased physician satisfaction,
- a sense of pride in trauma care providers throughout the facility, and
- the community is reassured that everything possible is being done to provide them state-of-the art trauma care.

Trauma systems have been well studied, and these studies form the basis for the recommendations and guidelines found in the ACS-COT *Resources for Optimal Care of the Injured Patient* document.

Hospitals, healthcare providers, and physicians in Alaska are already providing trauma care. The adoption of an inclusive trauma system with verified/ designated trauma centers would enable facilities in the state to provide trauma care to all Alaskans with less variability in care, better patient outcomes, lower resource utilization, and higher patient and provider satisfaction. In many cases, trauma care within an organized and verified trauma center also results in lower costs as evidence-based practice replaces less efficient practice patterns.

Only five hospitals are currently verified/designated trauma centers in Alaska. Reasons expressed by participants for not becoming verified and designated are varied but fall into two main categories:

- Administrator's concerns regarding increased costs to be borne by the hospital and the potential impact on the medical staff
- Lack of broad physician support

Administrators' concerns

Administrators' concerns involve a number of issues related to trauma center verification:

- Multi-system trauma patients require an organized system of care for optimal outcomes which increases institutional readiness costs.
- "Poor" uninsured case mix of trauma patients.
- Effect on hospital operations such as disruption of operating room schedules, filling ICU beds, etc.
- Physicians tend to be reluctant to participate and may elect to abandon a hospital that seeks designation.

Lack of physician support

Medical staff support for trauma center verification tends to be lukewarm at private hospitals for a number of reasons:

- Trauma patients have higher rates of uncompensated care than "elective" patients.
- Trauma patients are more likely to sue a physician (unfounded).
- The care of trauma patients imposes undue burdens including night and weekend work, and this care is generally disruptive of elective practices.

To address the above mentioned concerns, a number of issues should be openly discussed by key representatives of the identified groups, and a variety of solutions should be considered. It is likely that no one answer fits every situation and a combination of flexibility and transparency is needed.

While it is true that verification/designation as a trauma center requires commitment by administration and medical staffs, the benefits in improved patient outcomes, decreased complication rates and length of stay, and increased patient and provider satisfaction can outweigh the costs. In the case of the hospitals and physicians in Alaska who are already providing trauma care, an inclusive trauma system would likely make trauma care easier and less costly.

The cost of readiness is significant in trauma centers and may be addressed through several means. The recently introduced trauma activation fees using the 68x designation on the UB 92/UB 04 form can relieve a significant portion of these costs. Trauma activation fees can only be submitted if the center is verified/designated. A number of states have provided financial support to their trauma centers through legislation or appropriations. State financial support for trauma care is usually linked to trauma center verification/designation and continued participation in an organized trauma system. Trauma center verification/designation carries important benefits to hospitals in terms of disaster

preparedness, and this may be especially relevant in Alaska given its unique geography and circumstances.

The issues of poor case mix and disruption of hospital operations are best addressed by considering the impact of verification/designation on hospital functions. For a hospital that is already caring for trauma patients, the introduction of a trauma system will likely mean an overall increase in the efficiency of caring for these patients, secondary to improvements required in the verification process. Decreased ICU and hospital length of stay, lower resource consumption and lower rates of complications will improve hospital bottom lines while increasing patient and provider satisfaction.

Physician concerns should be carefully addressed as a functional trauma system requires broad physician support. This is especially true for the specialties of general surgery (including pediatric surgery), orthopedic surgery, neurosurgery, anesthesia and emergency medicine. The Anchorage area hospitals have ample physician specialization to provide optimal care with the following estimated numbers:

- 30 surgeons, many sub-specialized.
- 40 orthopedists
- 6 neurosurgeons
- 4 cardiac surgeons
- 2 pediatric surgeons

Education can alleviate the concerns that trauma patients are more litigious than average.

The concerns regarding reimbursement and work hours are real and require more focused solutions. Trauma patients do, in fact, have higher rates of uncompensated care than elective patients in almost all regions of the United States. They are also more likely to arrive during evening and night hours.[4] The specific concerns of physicians should be acknowledged and actions should be taken to address them. For hospitals, actions may include one or more of the following options:

- Provide an on-call stipend to cover the perceived burden of trauma call. This would include high volume specialists who are not ordinarily in-house and who agree to participate in the activities of the trauma center, including performance improvement and continued medical education (CME). Most frequently this would include general surgery, orthopedics, and neurosurgery.

- Recruit one or more trauma/surgical critical care specialists to provide the core trauma care functions. Such individuals would support the private physicians and decrease their burden by providing back-up, assuming the care of patients admitted to the hospital, and taking responsibility for organizing the requisite activities for verification. By providing an actual trauma service with a specialized team led by a trauma/surgical critical care boarded specialist, the community surgeon can transfer patient care the following morning and feel confident the patient will receive state-of-the-art care. This frees the private physician to continue with his/her surgical practice. The specialist-led trauma service would improve care by decreasing variability, complications, length of stay and dissatisfaction.
- Support the private physicians through CME expenses, liability coverage, or a fund to cover a portion of uncompensated care exposure.

While this will require substantial financial support from hospital administration initially, the improvement in outcomes and the increase in patient and provider satisfaction should return at least a portion of the investment. Additional revenue through activation fees and state support would also contribute to deferring any start-up and readiness costs. Providing hospitals and physicians with financial support as part of a proposed inclusive trauma system plan will likely facilitate the adoption of trauma center verification/designation.

In addition, the implementation of an inclusive trauma system in Alaska with broad hospital participation would provide a critical element in disaster preparedness.[5] The vital role of trauma centers in support of disaster management should also be a central part of any funding requests to the legislature.

RECOMMENDATIONS:

- Verify/designate all the medical facilities in Anchorage who wish to provide trauma care at levels commensurate with these resources and commitment
- Develop city-wide trauma triage guidelines for Anchorage with further application to the needs of in-coming transfer patient.
    - Establish a predetermined plan that accounts for subspecialty needs of the patient matched with the hospitals' capabilities.
    - Establish trauma diversion guidelines with back-up plans.

- Develop evidence-based trauma team activation criteria
    - Use the "status 1" only when there is prehospital physiologic evidence that the patient requires an immediate surgical response.
    - Start tracking surgical response times for "status 1" patients from time of notification. Benchmark to the ACS verification guideline of a surgeon being present on arrival of patient or within 15 minutes of notification. The threshold is to meet this 80% of the time.
    - Study outcomes associated with used of the criteria to further refine them for optimal patient outcomes with minimal physician encumbrance.
- Identify physician leadership – trauma champions
    - Encourage Level II trauma centers (or hospitals that seek to become Level II trauma centers) to consider recruiting a trauma/surgical critical care specialist who can provide a knowledgeable back-up for sub-specialized surgeons who may or may not be comfortable with caring for a multi-system critically injured patient.
- Develop trauma chart forms
    - Establish standardized trauma patient admission orders. Establish automatic orders for glucose monitoring and control, peptic ulcer prophylaxis, deep vein thrombosis prophylaxis and surveillance, head injury protocols, etc.
    - Ensure that trauma history and physical forms have prompts for problem documentation areas such as Glasgow Coma Scale scores, procedures performed, notification and arrival times, critical care times, etc.
- Address finance issues
    - Encourage medical facilities to invest in the trauma service to obtain and maintain verification/designation.
        - Recruit and retain trauma/critical care specialists.
        - Initiate discussions with general surgeons to identify their needs to be able to provide the call coverage and to identify patient care issues.
        - Track costs that can be recouped by improved patient length of stay, decreased cost of care, and the value of improved medical staff satisfaction.
    - Charge trauma activation fees (can only be charged by verified/designated centers).
    - Seek legislation to include assistance for uncompensated care and readiness fees for verified/designated trauma centers.

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2. How can Alaska better coordinate resources, especially air medical, for every day trauma responses, as well as disaster response?

Assessment:
Alaskans depend on aircraft for routine travel and medical transport, especially those who reside in the isolated two-thirds of the state without roads. At any given place or time, local providers are familiar with local resources available, but may not know about back-up resources available in the region. Local providers may then be challenged to make multiple calls when their primary local air medical resource is not available.

Coordinating trauma care resources in the state of Alaska requires current knowledge of the status of those resources, e.g., personnel, equipment, communication, facilities. To date, a comprehensive needs or resource assessment of the trauma system has not been conducted. While some of this information is available, such as for facilities, it is lacking for other aspects of the trauma system, such as air medical resources.

Policy Development:
Once an air medical resource assessment has been completed, information collected about all trauma system resources (including military, National Guard, and Coast Guard) should be organized by region and made available to users in an easily retrieved format. A central coordination center could then be created to track the air medical assets available and in use throughout the state, and this information could potentially be available on-line. Likewise, the EMS regions could develop and maintain a regional resource information database that could be updated regularly.

The next step could be the establishment of a regional "one call does all" service. Such services could assist a referring provider to obtain the aircraft that matches the patient's need and local landing restrictions. The regional service could also help direct community-based air medical resources to available and appropriate facilities and assist in the coordination of ramp transfers. The "one call does all" concept includes the identification of the receiving trauma facility that best matches the patient's needs.

The regional centers would feed information about the aircraft deployed to the central coordination hub. This coordination hub would be useful in a state disaster, and could potentially be maintained by the state's emergency management system. This type of statewide system status coordination hub would need to be operable and accessible at all hours and be updated in near real-time.

Another problem that the state faces is the lack of comprehensive guidelines for the indications of air medical transport. The reality is that urgent or even routine, non-emergent medical care not available in the local community may require air

travel. Development of guidelines will help ensure the optimal use of the air resources in a safe and efficient manner.

Assurance:

This service could optimize resource utilization locally and statewide on a continuous basis. Performance improvement could be conducted using trauma registry data to determine changes in time to transfer, and appropriateness of facility selection.

Recommendations

- Decrease patient transfer times by developing a central coordination center for statewide air medical resources that will maintain an updated registry of all medical aircraft to include medical services and flight characteristics (e.g., load capacity, instrument rating, and landing requirements).
    - Monitor the availability and location of air resources.
    - Provide availability status to users.
    - Coordinate air medical resources in a disaster situation.
- Develop regional system status databases of current trauma resources that are utilized to provide a 'one call does all' service for referring providers and support a statewide trauma resources data bank.
- Develop a state registry for disaster volunteers, similar to the Emergency System for Advanced Registration of Volunteer Health Professionals.
- Update and keep current the Trauma Triage, Transport and Transfer Guidelines.
- Use the Guidelines for the Management of Head Injuries in Remote and Rural Alaska as a template to develop other transport guidelines to optimize resources.
- In more populated areas with more than one healthcare facility, develop a tracking system of real time bed capacity for time sensitive diseases (trauma, ST elevated myocardial infarction [STEMI], stroke, etc.) and share that information with EMS dispatch in order to prevent delays or mistakes in patient destination (right patient to right facility).

Acronyms and Glossary

AAC - Alaska Administrative Code
ACEMS - Alaska Council on Emergency Medical Services
ACS – American College of Surgeons
ACS-COT- American College of Surgeons Committee on Trauma
ALS – advanced life support-+
ATAC - Alaska Trauma Advisory Committee
ATLS – Advanced Trauma Life Support

BIS – Benchmarks, Indicators, and Scoring
BLS – basic life support

CARF - Commission on Accreditation of Rehabilitation Facilities
CDC – Centers for Disease Control
CHAs – Community health aides
CME – continuing medical education

DHSS – Department of Health and Social Services
DOT – US Department of Transportation

EMS – Emergency Medical Services
EMSC – Emergency Medical Services for Children
EMTs – Emergency medical technicians

FTE – full-time equivalent

HRSA - Health Resources and Services Administration

ICU – intensive care unit
IPEMS – Injury Prevention and Emergency Medical Services Section

MICPs – Mobile intensive care paramedics
MPH – Master of Public Health degree

NEMSIS – National EMS Information System
NIOSH - National Institute for Occupational Safety and Health
NSC – National Standard Curriculum for EMTs
NTDB – National Trauma Data Bank
NTDS – National Trauma Data Standard

PHTLS – Prehospital Trauma Life Support

SCI – spinal cord injury
STEMI - ST-Segment Elevation Myocardial Infarction
STIPDA – State and Territorial Injury Prevention Directors Association

TBI – traumatic brain injury
TNCC – Trauma Nurse Core Curriculum
TSC – Trauma system consultation
TSRC - Trauma System Review Committee

Alaska Council on Emergency Medical Services (ACEMS)

The mission of the Emergency Medical Services program in Alaska is to reduce both the human suffering and economic loss to society resulting from premature death and disability due to injuries and sudden illness. The Governor's Alaska Council on Emergency Medical Services, also known as "ACEMS," provides the Commissioner of the Department of Health and Social Services and the Governor with recommendations related to all aspects of EMS, including distribution of funding, and policy development. The Council:

- brings together technical resources, experience, and knowledge to assist and advise on the continued development of the EMS and trauma system in Alaska;
- advises the state EMS staff and EMS regional directors regarding public education and generation of broad community support for the goals of the EMS program;
- provides recommendations regarding EMS program policy and priorities; and
- reviews EMS or EMS-related program proposals on request of the Commissioner of the Department of Health and Social Services, the Director of the Division of Public Health, and Section of Injury Prevention and EMS staff.

ACEMS was established by Alaska Statute 18.08 and meets two times a year to take action on issues affecting EMS in Alaska.

Alaska Council on Emergency Medical Services
As of 9/2008

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Ken Zafren, MD 10181 Curvi Street Anchorage, AK 99516 PH# FAX# zafren@alaska.com Appointed: 10/21/01	State EMS Medical Director

REGINALD A BURTON, MD, FACS- TEAM LEADER

Dr. Burton started his Trauma career while in high school when he got his first EMT certification. He worked as an EMT throughout college and medical school to offset his tuition. He and his wife, Dr. Snyder, moved to Ohio after finishing his residency in Surgery in 1992.

Dr. Burton was very active in the establishment of the Trauma System in Ohio. He developed and was the Trauma Director of the first ACS verified level III trauma center in Ohio, while continuing to participate in trauma call at the Level I trauma center in Dayton. He gave numerous lectures throughout the state on trauma center development, trauma center Performance Improvement programs, and EMS/Hospital integration of trauma plans. He became the medical director for the Fire/EMS services in two surrounding cities and sat on the regional EMS Council. He was the Co-Chairman of the Southwest Ohio Regional Trauma System from 1997 until 2002. He was the Chairman of the Region 2 Physician Advisory Board to the Ohio State Trauma Board for 5 years until he moved to Nebraska. He sat on the Data Committee of the Ohio Trauma Board during the statewide trauma registry development, and helped work out many issues enabling it to start functioning 2000.

Dr. Burton took a sabbatical and did a Trauma/Surgical Critical Care Fellowship at the renowned R. Adams Cowley Shock Trauma Center in Baltimore Maryland in 2006-7, and is currently the Director of Trauma and Surgical Critical Care at Bryan LGH Medical Center in Lincoln, Nebraska. He is a Clinical Associate Professor in Surgery at the University of Nebraska. He is the Medical Director of Region 2 in the Nebraska Statewide Trauma System, Chair of the Nebraska Statewide Trauma Data and Performance Improvement Committee, and the author of the Nebraska Trauma Performance Improvement training workshop. His team developed a web-based trauma registry reporting system that has enabled small critical access hospitals in rural Nebraska to report their trauma data to the Nebraska Statewide Trauma Registry, and thus also to the National Trauma Data Bank.

Dr. Burton has been a site visitor for the ACS Verification Committee since 2000. He became the Chairman of the Nebraska ACS Committee on Trauma in 2002, and is the current Regional Chief of Region 7(Nebraska, Kansas, Missouri, and Iowa). Dr. Burton was also involved in the ACS Political Action Taskforce briefing on trauma issues to state senators and congressmen in Washington, D.C. in March, 2005. He was the ACSCOT representative to the National EMS Workforce Stakeholders Meeting and the HHS State Trauma Leadership meeting in 2006. He represented rural trauma physicians in the National Rural Health Association's meeting with federal partners in Washington, D.C. this year. Dr Burton has always been an outspoken advocate for Trauma System Development.

JANE W. BALL, RN, DRPH

Dr. Jane W. Ball served as the Director of the National Resource Center (NRC) at the Children's National Medical Center in Washington, D.C. from 1991 through 2006. The NRC provided support to two Federal Programs in the U. S. Department of Health and Human Services' Health Services and Resources Administration (HRSA): the Emergency Medical Services for Children (EMSC) Program and the Trauma-Emergency Medical Services Systems Program. As director of the NRC, she coordinated the support provided to the Federal Program Directors as well as the provision of technical assistance to state grantees. Support to the Federal Program Directors often included meeting facilitation, preparation of special reports (such as the Model Trauma Systems Evaluation and Planning document), and consultation on Program issues. Technical assistance often included strategic planning, providing guidance in securing funding, developing and implementing grants, developing injury prevention plans and programs, building coalitions, shaping public policy, conducting training, and producing educational resource materials.

Dr. Ball has authored numerous articles and publications as well as several health care textbooks, including Mosby's Guide to Physical Examination (6 editions), Child Health Nursing (first edition), Pediatric Nursing: Caring for Children (4 editions), Maternal and Child Nursing (2 editions), and Pediatric Emergencies: A Manual for Prehospital Care Providers (2 editions). One of these texts, Pediatric Nursing: Caring for Children, received the1999 and 2001 Robert Wood Johnson Foundation Last Acts Coalition Outstanding Specialty Book Award. As an expert in the emergency care of children, Dr. Ball has frequently been invited to join committees and professional groups that address the unique needs of children.

Dr. Ball recently completed her term as the President of the National Academies of Practice, an organization composed of distinguished health care practitioners from 10 disciplines that promote education, research, and public policy related to improving the quality of health care for all through interdisciplinary care. She currently serves as the organization's Immediate Past President.

Dr. Ball graduated from the Johns Hopkins Hospital School of Nursing. She obtained her master's degree and doctorate in Public Health from John Hopkins University School of Hygiene and Public Health. She is a Certified Pediatric Nurse Practitioner.

SAMIR M. FAKHRY, MD, FACS

Dr. Fakhry graduated from the American University of Beirut, School of Medicine in 1981. He completed his residency in general surgery and his fellowship in critical care and trauma at the University of North Carolina at Chapel Hill and North Carolina Memorial Hospital, Chapel Hill, N.C. in 1987.

From 1988 until 1991 he led the trauma program as Director for Trauma Services at George Washington University Medical Center in Washington D.C. In 1991, he accepted a position as Director, Surgical Critical Care Services at UNC Hospitals in Chapel Hill, NC. While at UNC, he rose to the rank of Associate Professor of Surgery with Tenure and was awarded several teaching awards by the medical students and the surgical residents. He remained there until 1997 when he was recruited to the Inova Regional Trauma Center at Inova Fairfax Hospital in Falls Church, Virginia as the Chief of Trauma Services.

Since 1997 he has held the position of Chief, Trauma and Surgical Critical Care Services at the Inova Regional Trauma Center. Additionally, he holds the positions of Associate Chair for Research and Education, Department of Surgery; Medical Director for the Inova Regional Trauma Center Injury Prevention Program; Professor of Surgery, VCU, Inova Campus; Clinical Professor of Surgery at Georgetown University School of Medicine; and is the immediate past Chair of the American College of Surgeons Washington DC Committee on Trauma.

Dr. Fakhry has been heavily involved in trauma and surgical critical care research. He has numerous peer-reviewed publications, abstracts and book chapters to his credit. He is a member of many national societies and serves on several national committees and boards. He is a frequent speaker locally as well as nationally.

Dr. Fakhry maintains a high interest in all aspects of trauma. He has been Principal Investigator (PI) for the Crash Injury Research and Engineering Network (CIREN) Center at Inova Fairfax Hospital since May, 2000. With injury prevention as a goal he has worked closely with The National Highway Traffic Safety Administration (NHTSA), automobile manufacturers and bio-engineers to help produce safe vehicles. In addition to the CIREN project, he has been awarded funding for numerous projects in areas of injury prevention, surgical critical care and trauma. These include medical informatics applications, head trauma, intestinal injury, aggressive driving, teen DUI prevention and surgical education.

DREXDAL PRATT

Chief Drexdal Pratt heads the Office of Emergency Medical Services in the Division of Health Service Regulation of the North Carolina Department of Health and Human Services. His agency manages Emergency Medical Services and Trauma and the Assistant Secretary for Preparedness and Response (ASPR) Hospital Preparedness Cooperative Agreement.

Mr. Pratt is a graduate of the Institute of Government at the University of North Carolina at Chapel Hill, the EMS Management Institute at the University of North

Carolina at Charlotte, and Forsyth Technical Community College. He is also a Certified Emergency Manager (CEM) and a Certified Public Manager (CPM).

Mr. Pratt joined the North Carolina Office of Emergency Medical Services in 1987 as a Regional Coordinator. He was promoted through the ranks, first to Regional Supervisor, and then to Chief of the agency in 1999.

Mr. Pratt served two terms as Chair of the Region I EMS Advisory Council. He received the National Association of County Commissioner's Achievement Award for coordinating the development of the Stokes County NC computer-aided dispatch program.

Currently, Chief Pratt serves as a Commissioner on the Governor's State Emergency Response Commission and serves as Chairman of the Commission's Homeland Security Medical Committee. In addition, Mr. Pratt serves as Chairman of the NC Hospital Preparedness Committee.

NELS D. SANDDAL, MS, REMT-B

Mr. Sanddal is currently the president of the Critical Illness and Trauma Foundation (CIT), in Bozeman, Montana. CIT is a non-profit organization dedicated to improving the outcomes of people who are injured in rural America through programs of prevention, training, and research. He recently completed a detachment as the Director of the Rural EMS and Trauma Technical Assistance Center which was funded by the Department of Health and Human Services, Health Resources and Services Administration. Mr. Sanddal worked as the training coordinator for the EMS and Injury Prevention Section of the Montana Department of Public Health and Human Services in the late 1970's. He has served as the Chairperson of the National Council of State EMS Training Coordinators and as the lead staff member for that organization, as well as the National Association of EMT.

Mr. Sanddal has been a co-investigator for six state or regional rural preventable trauma mortality studies and has conducted research in the area of training for prehospital and nursing personnel as well as in rural injury prevention and control. He is a core faculty member for the NHTSA Development of Trauma Systems course and has conducted several statewide EMS assessments for NHTSA. Mr. Sanddal served on the IOM Committee on the Future of Emergency Care in the U.S.

He received his EMT training in Boulder, Montana, in 1973 and has been an active EMT with numerous volunteer ambulance services since that time. He currently responds with the Gallatin River Ranch Volunteer Fire Department where he serves as the Medical Officer and Assistant Chief.

He completed his undergraduate work at Carroll College, received his Master's degree in psychology from Montana State University and is currently completing his doctorate in Health and Human Behavior from Walden University.

JIM UPCHURCH, MD, MA, REMTP

Dr. Upchurch began his medical career in 1971 as a Special Forces Medic courtesy of the US Army. He graduated from the University of Texas Medical Branch at Galveston in 1982 and completed a Family Practice residency from the University of Oklahoma in 1985. Since 1985, he has served as an Indian Health Service (IHS) Physician on the Crow Indian Reservation in Montana. The majority of his clinical practice involves emergency medicine (EM), Emergency Medical Services (EMS), surgery and obstetrics. He maintains current National Registry certification and state licensure as a paramedic. In 2003, he completed a masters degree in educational technology from George Washington University.

Dr. Upchurch is a long-standing member of the National Association of EMS Physicians and the American College of Emergency Physicians. Since 1986, he has functioned as EMS medical director for Big Horn County in Montana and guided their basic care program to the advanced life support level, including critical care interfacility transport. He also provides EMS medical direction for Big Horn Canyon National Park and the Incident Medical Specialist Program, US Forest Service, Region I.

Dr. Upchurch is director of a small non-profit organization, EMS Education & Training. They offer distance and face-to-face educational opportunities to rural and frontier EMS personnel in Montana who desire to advance their level of care. He is an active ACLS, ACLS EP, ATLS and PHTLS instructor. Recently, he authored the Geriatric chapter for the sixth edition of *Nancy Caroline's Emergency Care in the Streets*, released in 2007.

Although Montana has no recognized state EMS medical director, Dr. Upchurch has served in that function for many years and represents Montana on the National Council of State EMS Medical Directors of the National Association of State EMS Officials. He functions at the IHS national level as a consultant on EM and EMS issues. He also sits on the Montana Board of Medical Examiners and on the board for the Critical Illness and Trauma Foundation.

JOLENE R. WHITNEY, MPA

Jolene R. Whitney has worked with the Bureau of Emergency Medical Services, Utah Department of Health for 27 years. She spent the first 6 years of her career as a regional EMS consultant. She became Assistant Training Coordinator in 1986. She has been a program manager for EMS systems and trauma system development since 1991. She is currently a Deputy Director for the Bureau of EMS and Preparedness, which includes Trauma System Development, Chemical

Stockpile Emergency Preparedness, Hospital Disaster Planning, ED, Trauma and Pre-hospital databases, EMS Licensing and Operations, CISM, and EMS for Children.

She spent 250 hours in the Olympic Command Center, serving as an EMS liaison for the 2002 Winter Olympics in Salt Lake City, Utah. She has been involved with all aspects of EMS including ambulance licensure, EMS councils, certification and training, computer testing, and curricula development. She has experience in statute and rule development, grant writing, system plan development, coalition building, and disaster preparedness. She has served on several national committees and teams, including a state EMS system assessment for NHTSA, reviewing rural trauma grant applications, developing the HRSA model trauma system plan and the NASMESO trauma system planning guide, and the NHTSA curriculum for an EMT refresher course.

Jolene has a Masters in Public Administration from Brigham Young University and a B.S. in Health Sciences, with an emphasis in Community Health Education from the University of Utah. She was certified as an EMT-Basic in 1979. She also obtained certification as an EMT instructor and became certified as an EMT III (Intermediate) in 1983. She has attended numerous conferences, courses, and workshops on EMS, trauma and disaster planning and response. She also completed a course for investigator training from CLEAR. Jolene is a co-author of three publications on domestic violence and hospital surge capacity planning.

She is the current Chair for the National Council of State Trauma System Managers/NASEMSO. She is a member of the American Trauma Society, previous member of the National Association of State EMS Training Coordinators.

In 2005, she was nominated by her staff and received a Utah Manager of the Year Nominee Award from the Governor. She also received recognition from the Utah Association of Emergency Medical Technicians in 2006.

Appendix B: List of Participants

American College of Surgeons
Trauma Systems Consultation
November 2nd-5th, 2008

Name	Title	Organization
Abbott, Sally	SOA Preparedness Coordinator	SOA (State of Alaska)
Allard, Faith	RNFP Director	SOA
Andraschko, Andrea	Communication Specialist	ARH (Alaska Regional Hospital)
Barros, Nancy	SOA Program Manager	SOA
Bowman MD, J. Dani	Pediatrician	ANMC (Alaska Native Medical Center)
Brown MD, Ken	Planning Manager	BRH (Bartlett Regional Hospital)
Bryson, George	Staff Writer	Anchorage Daily News
Bundy, Tim	Section Chief, EMS	IPEMS (Injury Prevention & Emergency Medical Services) SOA
Butler MD, Jay	Chief Medical Officer	SOA- DHSS
Carr, Pat	Section Chief	SOA Health Planning and Systems Development
Chennault MD, Regina	Surgeon	ANMC
Coopes MD, B.J.	Director of Pediatric ICU	TCHAP (The Children's Hospital at Providence)
Crum RN, Bev	ER Manager	Ketchikan General Hospital
Davis, Rick	COO	ARH (Alaska Regional Hospital)
Derring RN, Shelly	Director of Clinical Operations	Airlift Northwest
DeGreef RN, Margie	Assistant with Administrative Services	PKIMC (Providence Kodiak Island Medical Center)

Name	Title	Organization
Fisher, Bryan	Chief of Operations	ADHSEM (Alaska Division of Homeland Security and Emergency Management)
Funk, Beth	State Epidemiologist	DHSS (SOA Department of Health and Social Services)
Gariepy RN, Debbie	TNC- Nurse	ARH
Gilkey, Ed	Chief Physician Executive	ANMC
Godfrey, Gerad	Chair	Violent Crimes Compensation Board
Goodrich, Craig	Fire Chief	Anchorage Fire Department
Greenberg MD, Matt	ED Director	YKHC (Yukon Kuskokwim Health Corporation)
Hecks, Sue	Director	Southern Region EMS
Hilgendorf, Rebecca	Acting Director	DSDS (Division of Senior and Disabilities Services) SOA
Hoebelheinrich MD, S. Roger	MD	CPGH (Central Peninsula General Hospital)
Hull-Jilly, Debra	IPU Unit Manager	IPEMS (Injury Prevention & Emergency Medical Services) SOA
Ives, George	Program Manager	PH- SOA
Jessop, Dan	Administrator	ANMC
Johnson, Mark	Volunteer	Former SOA Section of Community Health and EMS
Lamb, Ed	CEO	ARH
Lamoureux, Bruce	Senior Administrator	PAMC (Providence Alaska Medical Center)
Leemhuis RN, Mary	Trauma Program Manager, Nurse	ANMC
Leighty, Bobbi	Director of SE Region EMS	SEREMS (S.E. Region EMS)
Lerner MD, Deborah	Pediatrician	PAMC
Levy MD, Mike	Emergency Medicine Physician	ARH
Mackin, Jim	Preparedness Director	SOA/DHSS

Name	Title	Organization
Mandsager MD, Richard	TCHAP Director	PAMC
Maskay, Raj	Public Health Specialist	Section of Injury Prevention and EMS, SOA
Molitor RN, Jeanne	Course Director	SOA
Olliff, Terry	EMS Unit Manager	SOA IPEMS
Parks MD, Stephen	MD	PAMC/Lifemed
Poggi, Stephen R.	EMS	AFD (Anchorage Fire Department)
Potashnik, Dave	Emergency Medical Service Officer/Assistant Chief	North Slope Borough Fire Department- Barrow
Potts, Joanne	Program Manager	ARH
Robinette MD, Danny	MD	Northern Alaska Medical Surgical
Sacco MD, Frank	Trauma Systems Review Committee Chair/Surgeon	ANMC
Scandling, Bruce	Program Manager/Legislative Liaison	SOA Division of Public Health
Searles MD, Grant	MD	Anchorage Surgical and Bariatric
Simonsen RN, Barb	State Trauma Analyst/Nurse	IPEMS
Smith MD, Linda	ED Physician	ARH
Somervell, Philip	Epidemiologist	NIOSH (National Institute for Occupational Safety and Health)
Thompson RN, Mary	Trauma Program Managaer	PAMC
Wilder MD, Norman	Chief Medical Officer	ARH
Wooley, Bev	Director PH, DHSS	SOA
Zafren MD, Ken	SOA EMS Medical Director	SOA

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APPENDIX

Objectives and Methodology

- The Coalition for American Trauma Care commissioned Harris Interactive to conduct a survey of the public's views of and support for trauma systems.
- Telephone interviews were conducted with a nationally representative sample of 1000 adults aged 18 and over, between November 3rd and 14th, 2004.
- Final data were weighted by age, education, gender, income, and region, where necessary, using 2003 Current Population Survey data to adjust for sampling biases, if any.
- With 1,000 respondents, the sampling error is +/- 3%.

Key Topics

- Knowledge about leading causes of death
- Perceived value of and expectations about trauma centers
- Perceived value of and expectations about trauma systems
- Willingness to support funding of trauma centers and systems
- Disaster preparedness and trauma systems

Harris Interactive Ground Rules For Publicly Released Surveys

- Harris Interactive Inc. has very strong ground rules for surveys which may be publicly released. No other survey firm has stronger rules.
- Our **Five Rules** ensure that our surveys are never used to lead or mislead policymakers or the public. We do not do "hired gun surveys."
  1. **The survey must be fair, balanced and comprehensive.**
  2. **If the survey is publicly released, the full survey report must be released.**
  3. We will not include questions for possible publication about our clients' company or their products or brand names, or the names of their competitors. (The one exception: we sometimes do readership surveys or audience measurement surveys which ask about our clients.)
  4. **The survey must not be used to mislead the public, the media, policymakers or anyone else.**
  5. **We need to review the information that is being released prior to its release in order to check for accuracy.**

Overview

- Most Americans are not aware that injury is the leading cause of death for children, youth, and adults under the age of 34.
- After hearing a description of a trauma center, Americans value them highly and appreciate the importance of having one within easy reach.
  - Almost all Americans feel it is extremely or very important to be treated at a trauma center in the event of a life-threatening injury.
  - Nearly nine in ten Americans think it is extremely or very important for an ambulance to take them to a trauma center in the event of a life-threatening injury, even if it is not the closest hospital.
  - Nearly all Americans *believe* that if they had a serious or life-threatening injury, they *would* be taken to the hospital that is best equipped to handle their specific injury in less than 1 hour.
- Majorities of Americans feel that having a trauma center nearby is as important as or more important than having a Fire Department or Police Department.

Overview (cont.)

- After hearing a description of a trauma system, nearly all Americans recognize the importance of having a trauma *system* in place in their state.
- Large majorities feel that having a trauma *system* in place is as important as or more important than having State Police or HAZMAT teams.
- About two in three Americans would be extremely or very concerned if they learned that the trauma system in their state did not meet recognized standards. (*However, a 2002 survey of the status of trauma system development conducted by the Health Resources and Services Administration of the U.S. Department of Health and Human Services shows that only 8 states have fully developed trauma systems, 12 states do not have the authority to designate trauma centers, and the rest are in varying stages of partial development.*)
- Americans are willing to spend their own money to have trauma centers and systems in place in their states.
- Generally, Americans have high expectations of their states' trauma centers and systems when it comes to handling natural disasters or terrorist attacks.

Alaska State Medical Association

4107 Laurel Street • Anchorage, Alaska 99508 • (907) 562-0304 • (907) 561-2063 (fax)

October 13, 2008

Regina Chennault, MD
Frank Sacco, MD
4315 Diplomacy Drive
Anchorage, AK 99508

Via fax: 729-2746

RE: Alaska Trauma System

Dear Drs. Chennault and Sacco:

Thank you, Dr. Chennault for presenting at the ASMA House of Delegates Meeting on Saturday, September 27, 2008.

By consensus the ASMA HOD supported the concept of an appropriate trauma system for Alaska. However, the proposal recommended that there be a $500,000 cap on all damages for treatment of trauma patients in a state certified trauma center. The HOD recommended that be dropped from your proposal as any cap on economic damages would likely be found unconstitutional in Alaska. Additionally, the HOD also recommended that the proposal be amended to provide for a mechanism to directly compensate physicians for providing treatment for uninsured trauma patients in a state certified trauma center. (This would be for physicians who are not employees of that certified trauma center).

Several individual HOD members also suggested that you may wish to explore Alaska's "Good Samaritan" laws in lieu of any special economic damages caps which, as previously stated, are constitutionally problematic.

Please let me know if I may be of any future assistance.

Sincerely,

By: James J. Jordan, Executive Director
For: The Alaska State Medical Association

CC: John Raster, MD, Speaker of the House
Tom Vasileff, MD, President
J. Ross Tanner, MD, Immediate Past President

NATIONAL CONFERENCE of STATE LEGISLATURES

IN DEPTH
STATE HEALTH *NOTES*

Volume 27, Issue 461 February 20, 2006

PREPARING FOR THE WORST: STATES ADDRESS TRAUMA CENTERS' TROUBLES

By Christina Kent

Victims of traumatic events are at least 25 percent more likely to live if they're taken to a certified trauma center than if they are taken to a non-trauma center, according to a carefully controlled, nationwide study in the Jan. 26 *New England Journal of Medicine*.

That finding could give a boost to state legislators who are scrambling to find new sources of funds for the centers, which provide care for the most expensive conditions in the nation. In January, the Agency for Healthcare Research and Quality reported that trauma disorders have become, for the first time, the most expensive condition to treat. According to the agency's Medical Expenditure Panel Survey, trauma-related disorders cost the nation $71.5 billion in 2003 – topping the cost of treating heart conditions ($68 billion), cancer ($48 billion), mental disorders ($47 billion), and cardiopulmonary disease and asthma ($46 billion).

Trauma centers differ from general hospital emergency departments in that they provide, on a 24/7 basis, teams of trauma surgeons, plastic surgeons and other specialists who can deal with the most severe injuries within the "golden hour" – the early period of trauma where skilled intervention may mean the difference between life and death or life-long disability. The centers are capable of dealing with the most severe, life-threatening injuries, including blunt force wounds, multiple internal injuries, burns, broken bones and severe shock.

"Trauma is the number one killer of people aged one to 40," said Dr. J. Wayne Meredith, chairman of the American College of Surgeons' trauma committee. "One of the most prominent tools to prevent those deaths is the trauma system."

The nation's approximately 600 regional trauma centers – which also are often public and teaching hospitals – collectively lose $1 billion a year, according to Connie Potter, executive director of the National Foundation for Trauma Care. And they're facing growing pressure from rising health-care costs, increases in the number of un- and underinsured patients, and physicians' growing unwillingness to provide on-call trauma care, which many regard as underpaid and highly risky (because of possible malpractice lawsuits).

A 2004 report by the Foundation says that, without corrective action, the current rate of closures among the nation's trauma centers will increase, and 10 percent to 20 percent will close within three years.

Preventing Closures

States play an enormously important role in providing trauma care. Not only do they pass legislation authorizing state agencies to design trauma systems, but they strive to keep the trauma centers functioning by channeling to them special funding streams.

Since car crashes are the number one cause of trauma (see chart), many states elect to help pay for trauma care by imposing fines on individuals who are convicted of drunken or reckless driving, or who lose their driver's

license. Some states also use revenues from tobacco, alcohol or firearms taxes, while others tax auto insurance or fine persons convicted of illegal drug distribution.

A number of states are currently considering legislation to shore up their trauma centers; some bills would address the crisis in getting physicians to provide on-call trauma care by increasing their reimbursement.

In New Mexico, HB 356 and SB 356, introduced at the behest of Gov. Bill Richardson, would provide $6 million to create a trauma system fund. Of that amount, $4 million would go to support trauma services at the University of New Mexico hospital and $2 million would go to strengthen the trauma system throughout the state.

In Hawaii, the Legislature is considering HB 3142, which states that Hawaii's "extreme isolation and limited physician re-supply capability renders Hawaii uniquely vulnerable to natural disasters that may occur in a mid-Pacific environment." The bill would create a fund to reimburse the state's only trauma center for documented un- or under-compensated care (including supplemental funding for treatment given to Medicaid beneficiaries). The fund would draw money from state surcharges, the state's environmental response revolving fund, as well as any funds that are separately appropriated by the Legislature or granted by Congress (as long as they don't place an obligation upon the Legislature to continue the purpose for which the federal funds are made available).

In Florida, HB 1697 and HB 497 were signed into law in 2005 after first being vetoed by the governor, who reportedly had concerns about the way the funds were to be distributed. The first bill is expected to raise as much as $4.7 million annually for the state's trauma centers by increasing the penalties for motorists who cause serious injuries (they now will be charged $500) or fatalities ($1,000) in traffic accidents.

The second bill will provide new funding for in-state trauma care by increasing the fine for running a red light from $60 to $125. Florida's 20 trauma centers incur an annual net loss of $96 million, said Amy Maguire, director of the Alliance to Save Florida's Trauma Care. The funds will be distributed to the hospitals based on their state of "readiness" (e.g., how many physicians are on call), and the severity and volume of injuries treated.

Pennsylvania, which has one of the oldest trauma systems in the nation, is considering a bill (HB 502) that would seek to retain trauma providers by increasing their reimbursement. The bill notes that many high-risk health-care providers and institutions in the state are being paid less than Medicare rates by private insurers. "[H]igh-risk health-care providers and institutions may leave this Commonwealth or close down if the low reimbursements continue," the bill states. It would require insurers to pay 25 percent more than the Medicare fee to high-risk providers (defined as those who pay malpractice premiums in one of the four highest classes) for providing covered treatment to trauma patients at a state-accredited Level 1 or 2 trauma center – or the provider's "usual and customary charge," whichever is less.

If states play the primary role in creating trauma centers, the federal government historically also has contributed. For years, the Health Research and Services Administration's (HRSA) Trauma/Emergency Medical Services program provided grants to states to help them plan trauma systems. But the federal FY 2006 budget zeroed out funds for that program. It had been funded at about $3.4 million a year since 2001, Potter said, and grants to individual states had averaged about $40,000 per state.

Both Potter and Meredith were highly critical of the fact that the program was eliminated. "Having a federal agency that supports trauma care is critical," Meredith said. "It's the catalyst, the grist of the mill." Trauma costs the nation billions of dollars a year, he noted. "Spending $3 to $4 million to keep that on track seems like a pretty good investment to me." Repeated calls to HRSA for comment were not returned.

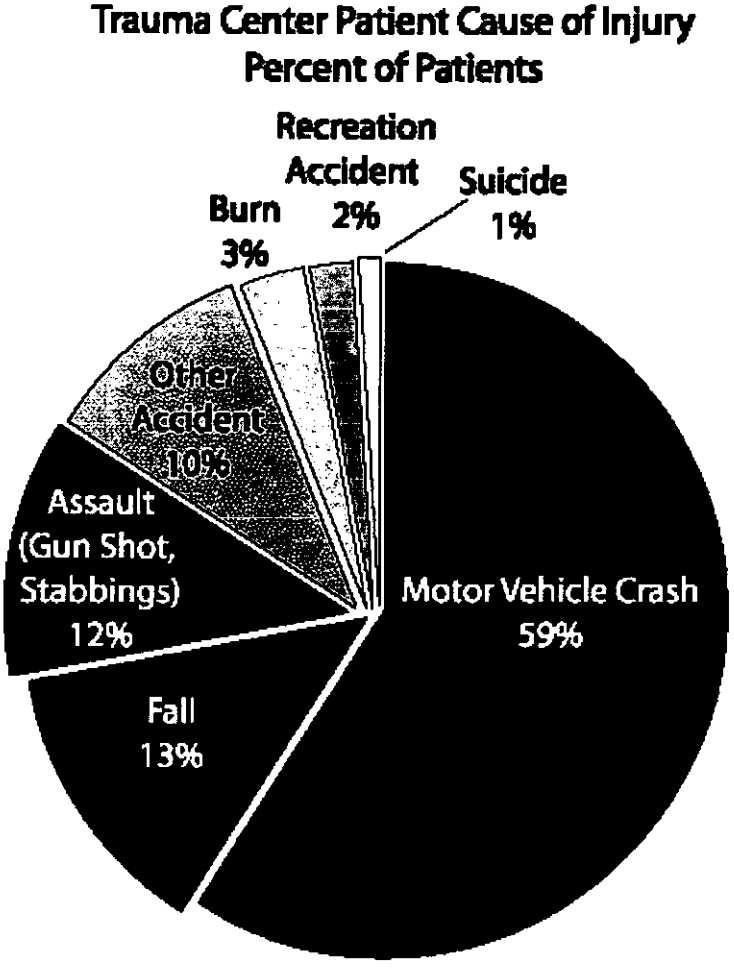
How Many?

September 11th and Hurricanes Katrina and Rita have raised the profile of trauma centers. But it's not clear how many centers the nation needs. A September 2005 issue brief by Charles Branas at the University of Pennsylvania notes that the geographic distribution of trauma centers varies widely across states and regions. Branas and colleagues calculated that 84.1 percent of the U.S. population has access to a Level 1 or 2 trauma center within one hour. (Level 1 and 2 trauma centers provide the most sophisticated care; Level 3 centers transport the most severely wounded patients to a Level 1 or 2 center.)

The Northeast has the greatest access, followed by the West, the Midwest, and the South. About 36.7 million people – most of whom live in rural areas – do not have access within one hour, Branas found.

A significant proportion of people could reach a trauma center within the "golden hour" by crossing state lines, Branas pointed out. As of 2005, 47 states had protocols to enhance interstate cooperation during mass casualty incidents, but just 31 states had standardized protocols for border crossing of day-to-day trauma patients.

Policymakers who are trying to evaluate their trauma systems can measure how long it takes their state's residents to reach a trauma center, in comparison to national norms, Branas suggested. This would enable policymakers to "more realistically allocate scare resources," he wrote.



Tara Lubin contributed reporting to this story.

(printer-friendly version)

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DRAFT

Summary of Trauma Systems and Funding Mechanisms by State

DRAFT

State	ACS Trauma System Consulation	ACS BIS Facilitation	Legislated Trauma System?	Is that System Funded?	Fines/Fees on Moving Violations	Fines/Fees on Other Criminal Penalities	Motor Vehicle Registration/License Plates or Driver's License Renewal Surcharge	Cigarette Excise Tax	Gambling	General Revenue Funds	Surcharge on 911 calls	Other	
Alaska	2008	575	Yes	No									
Alabama			No	No									
Arkansas	In Discussion		Yes	Yes				X					
Arizona	2007		Yes	Yes				X	X*				*Money to Level I only
California	2002*		No	Yes	X								*Marin County (San Rafel, CA)
Colorado	In Discussion		Yes	Yes			X						
Connecticut	2006		Yes	No									
Delaware			Yes	Yes				X					
District of Columbia	In Discussion		No	No									
Florida			Yes	Yes	X								
Georgia	2009		No	No						X*			* Not a permanent funding source.
Hawaii	2005		Yes	Yes				X					
Iowa			Yes	No									
Idaho			No	No									
Illinois	2006		Yes	Yes	X	X							
Indiana	2008		Yes	No									
Kansas		2008	Yes	Yes	X								
Kentucky			Yes	No									*No Permanent Funding Source
Louisiana		Possible 2009	Yes	No									
Massachusetts			Yes	No									
Maryland			Yes	Yes			X						
Maine			Yes	No									
Michigan			No*	No									*Development of System in Progress
Minnesota	2007		Yes	Yes						X*			*$ from General fund, but generated from a hospital license fee of all Hospitals & money from Dept of Health
Missouri			Yes	Yes			X					Weapons License, ATV registration, Boat registration	
Mississippi			Yes	Yes	X		X	X					
Montana	1999		Yes	No									
North Carolina	2004		Yes	No									
North Dakota	2008		Yes	No									
Nebraska			Yes	Yes			X						
New Hampshire			Yes	No									
New Jersey	2008		No	No									
New Mexico			Yes	Yes						X*			*Yearly Legislative Appropriation. The surcharges to to Pre-hospital/EMS.
Nevada	2004*		Yes	No									*Clark County (Las Vegas, NV)
New York			Yes	No									
Ohio	2002*		Yes	Yes		X							*Tri-State Trauma Coalition (Cincinnati, OH)
Oklahoma			Yes	Yes	X		X	X					
Oregon			Yes	Yes						X			
Pennsylvania	2007		Yes	Yes	X	X							
Rhode Island	2004		No	Yes	X								
South Carolina			Yes	No									
South Dakota			No	No									
Tennessee	2008		Yes	Yes				X					
Texas		2005*	Yes	Yes	X						X		*Southwest Region

Please Contact Mindy Baker, 312-202-5363 (mbaker@facs.org) State Affairs Associate with corrections/additions etc.

DRAFT

Summary of Trauma Systems and Funding Mechanisms by State

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State	ACS Trauma System Consulation	ACS BIS Facilitation	Legislated Trauma System?	Is that System Funded?	Fines/Fees on Moving Violations	Fines/Fees on Other Criminal Penalities	Motor Vehicle Registration/License Plates or Driver's License Renewal Surcharge	Cigarette Excise Tax	Gambling	General Revenue Funds	Surcharge on 911 calls	Other
Utah		2005	Yes	Yes	X	X						
Virginia		2005	Yes	Yes	X		X					
Vermont			No	No								
Washington			Yes	Yes	X		X					Surcharge on sale or lease of a new vehicle
Wisconsin			Yes	Minimal						X*		
West Virginia	poss 2009		Yes	No								
Wyoming	2004		Yes	No								

*Partial funding for Trauma Coordinator position and $50, 000 for RTAC development and infrastructure

Please Contact Mindy Baker, 312-202-5363 (mbaker@facs.org) State Affairs Associate with corrections/additions etc.

Uncompensated Trauma Care by State

Arkansas	Tobacco Tax 56 cents Per Pack
Iowa	Tobacco Tax
Oklahoma	Medicaid Enhanced Rates State Trauma Fund $24 million Vehicle License Fees
Wisconsin	$1 Increase in Vehicle Registration Fees
Hawaii	$5 Registration Fee for EMS
Minnesota	General Fund $10 Failure to Wear Seatbelt Hospital License Fee (Base Fee Plus Per Bed Fee)
South Carolina	Trauma Fund-no Dedicated Funding Considering Surcharge for Seatbelt Violations, Drunk Driving, Alcohol Tax, Gun Tax
Texas	Surcharges on Drunk Driving and Reckless Driving to Trauma Fund
New Mexico	General Fund-Proposed 1% Fee on Home, Rental, Auto Insurance Policies
North Carolina	General Fund-HRSA Bioterrorism and Preparedness Money

Kentucky	Proposed 5% Tax on Guns and Ammunition
Kansas	Fees on Moving Violations Line Item
Florida	$5 Motor Vehicle Violation Fee Vehicle License Fees $25 Drunk Driving Charge
Rhode Island	$1 Surcharge on all Violations
Arizona	2.3 Million from DUI and Moving Violations
Massachusetts	Vehicle License Fees
Maine	Vehicle License Fees

TRAUMA LEGISLATION STICKS FROM OTHER STATES

State Mandated Designation
Hospital Licensure Dependent on Designation
Medicaid Reimbursement Rates Lower if Not Designated
Medicaid Reimbursement Rates Higher if Designated
Medicaid Eligibility Dependent on Designation