Oregon Trauma Systems Summary and Hospital Resource Criteria

OREGON TRAUMA SYSTEM SUMMARY

Emergency Medical Services Section
State Health Division
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In 1985 the Oregon Legislature authorized the Oregon State Health Division to implement a state wide trauma system, The following is a description of our activities, progress to date, and a brief characterization of the impact these activities are having on the care of patients with serious traumatic injuries.

The Plan

Approximately 1,300 Oregonians die each year and many more are permanently disabled by serious injuries. A trauma system reduces death and disability by (1) identifying the causes of injury and promoting activities to prevent injury from occurring and (2) assuring that appropriate emergency medical resources are used effectively and efficiently, The Health Division emphasizes local planning, prevention of injuries and strengthening of prehospital care in the following ways:

A State Trauma Advisory Board, consisting of the multi-disciplinary members of the medical team and members of the public, was appointed to help develop standards and policies for the trauma system and to serve as a liaison between state and local planners.

Ten trauma areas were established statewide reflecting current patient referral patterns, resources and geography. In each area an Area Trauma Advisory Board was appointed to develop the area trauma plan which coordinates the response, care and transportation of the patient. There are 157 volunteers on Area Trauma Advisory Boards statewide.

Area Trauma System Plans are in various stages of development and the Health Division is categorizing or designating trauma hospitals statewide in accordance with standards modified from the American College of Surgeons Hospital Resource criteria, Oregon is the first state in the nation to develop standards which recognize and include rural hospitals, This assures that patients throughout the state receive care consistent with national standards. Completion of categorization and designation of trauma hospitals and adoption of area trauma plans is targeted for completion by August 1990.

A statewide information system or "injury registry" will gather data about causes of injury, the emergency response and the patient outcome. In addition to evaluating the trauma system for quality assurance, this data will provide information for prevention of injuries.

The Health Division is implementing an injury prevention program which will use the injury data to develop and implement prevention strategies which focus on problems specific to Oregon. This program will provide technical assistance to help local programs implement effective interventions.

The Health Division has conducted a major pediatric trauma project in an effort to improve the emergency medical response specifically for seriously ill and injured children.

Progress to Date

The overriding concern both when this bill was passed and since, has been that the trauma system must meet the diverse needs of Oregon. To address this concern the Health Division held informational meetings in 21 cities to obtain input about emergency medical services problems and to encourage interest in local planning. In response, 325 emergency providers applied to serve on our advisory board (map attached).

During the past four years the 157 appointed members of the advisory boards have been helping to assure that statewide goals, standard and procedures for the trauma system are appropriate. With the help of the state trauma advisory board, state staff negotiated compromises among the various recommendations. The results of this input and discussion have been incorporated in the Trauma System Rules, filed in February 1987, which establish the minimum standards for area plans covering the prehospital care interhospital transfer, and quality assurance, as well as the procedures for hospital categorization and designation.

A Trauma System Resource Guide was developed which describes goals and guidelines of the trauma system and assists the area trauma advisory boards with their trauma system planning efforts, Another document, a request-for-proposal, assists hospitals in developing their trauma services and prepares them for verification surveys.

Current Activities

Each area trauma advisory board has been writing an area trauma system plan which is due in three phases. The plan for Area 1 (the seven northwest counties of Oregon) has been completed and was implemented May 2, 1988. The state board is providing assistance and review to assure that area plans meet state standards. In the

meantime, the Health Division staff are organizing visits by teams of experts to all hospitals. This process of categorization and designation assures that patients are treated in hospitals with a high commitment to trauma care regardless of hospital size and location.

Within Area #1 (see map attached) two level I trauma hospitals have been designated in Portland, consistent with the recommendations set forth by the providers in the area trauma system plan. In the surrounding counties, three level Ill & IV trauma hospitals were designated, Since the trauma system was implemented in May 1988, the area board has been working with the Health Division to develop and implement a model quality assurance program for the continual monitoring and evaluation of the trauma system.

In Areas #7, #9, and #10 (most of Central and Eastern Oregon) the first part of the area trauma system plans have been approved and are being implemented, Fifteen hospitals serving these areas were surveyed **in November 1988 by teams of out-of-state trauma experts and were categorized as trauma hospitals.**

The remaining trauma areas (Areas #2, #3, #4, #5, #6 and #8) are in various stages of trauma system plan development.

The State Trauma Advisory Board is focusing on developing quality assurance activities, evaluating the rural hospital resource criteria, and continuing to assist Area Trauma Advisory Boards with trauma plan development.

Impact on Patient Care

In some areas, the trauma planning process has provided a useful forum for amicable problem solving. The emergency medical service providers are working out problems and upgrading the quality of care through training and improved coordination. In other areas, the trauma board is providing the forum for heated but fair resolution of long-standing controversies. The providers are compromising on their preferred approaches to a trauma system. A few boards are struggling with what often seem to be insurmountable problems and inadequate resources. Progress is slow in these areas, In the area that has an implemented system hospitals are reporting excellent spin-off effects to non-trauma services as a result of developing their trauma service. Providers report that patients are receiving care that is more consistently in keeping with the goals for rapid definitive care. In all areas of the state, the development of the trauma system is being tackled by the appropriate people -- the providers who have to implement it and the public who will be served by it. We expect to meet a 1990 deadline for a system to improve care for all trauma patients.

HOSPITAL RESOURCE CRITERIA

EXHIBIT III
(333-200-080

The following table shows levels of categorizat on and their essentia' "E" (mandatory) or desirable "D" characteristics.

	LEVELS			
	Commun ty (IV)	Local (III)	Area (II)	Regiona' (I)
A. HOSPITAL ORGANIZATION				
1. Trauma Service		≤	≤	≤
a) Specified delineation of privileges for the Trauma Service must occur by the medical staff Credentialing Committee.				
b) Trauma Team - organized and directed by a general surgeon expert in and committed to care of the injured, all patients with multiple system or major injury must be initially evaluated by the trauma team, and the surgeon who will be responsible for overall the te tea roa or ma ca pa mu te				
2. Surgery Departments/ Divisions/ Services/Sections (each staffed by qualified specialists)				
Ca				
Ge				E
Ob te				E
ha				
Or ta				
Or ry				

Otorhinolaryngologic Surgery			D	E
Pediatric Surgery			D	E
Plastic and Maxillofacial Surgery			D	E
Urologic Surgery			D	E
3. Emergency Department/Division/ Service/Section	E	E	E	E
Staffed by qualified specialists: The emergency department staffing shall ensure immediate and appropriate care for the trauma patient. The emergency department physician shall function as a designated member of the trauma team, and the relationship between emergency department physicians and other participants of the trauma team must be established on a local level, consistent with resources but adhering to these standards and ensuring optimal care.				
4. Surgical Specialty Capability Availability				
(a) General Surgery	D	o	≤	≤
Board Certified (May be a surgeon who is a graduate of an A.C.G.M.E. approved residency and who is less than five (5) years out of training. If the surgeon fails to obtain board certification within five (5) years, s/he is no longer eligible, even though s/he has obtained ATLS course completion.				
Full, unrestricted general surgery privileges.	D	E	E	E
ATLS	E	E	E	E
On call and promotly available.		E		

	On call and immediately available to patient on arrival in emergency department. (Assumes 15 minute prehospital notification.)			
	In-house and immediately available to patient on arrival in emergency department. (Assumes 5 minute prehospital notification.)			E
(b)	Neurologic Surgery			
	Full, unrestricted neurosurgery privileges. On call and promptly available.		E	
	Physician with special competence, as judged by the Chief of Neurosurgery, in the care of patients with neural trauma, and who is capable of initiating measures directed toward stabilizing the patient and initiating diagnostic procedures. In-house and immediately available			
(c)	Cardiac Surgery On call and promptly available.		D	E
(d)	Microsurgery Capabilities Promptly available		D	E
(e)	Gynecologic Surgery On call and promptly available.			
(f)	Hand Surgery On call and promptly available		D	E
(g)	Ophthalmic Surgery On call and promptly available.	D	E	E

(h)	Oral Surgery (Dental) On call and promptly available.			E
	Orthopaedic Surgery On call and promptly available.			E
(j)	Otorhinolaryngologic Surgery On call and promptly available.		D	E
(k)	Pediatric Surgery On call and promptly available.			E
(l)	Plastic and Maxillofacial Surgery. On call and promptly available.		D	E
	Thoracic Surgery On call and promptly available.		D	E
(n)	Urologic Surgery On call and promptly available.		D	E
5.	Non-Surgical Specialty Capability Availability			
(a)	Anesthesiology			
	Anesthesiologist Full, unrestricted			E
	Certified Registered Nurse Anesthetist Current national certification essential.			
	ACLS and a trauma support course.			

(j)	Pathology On call and prompt y available		D	E	E
(k	Pediatrics On call and prompt y available		D	E	E
('	Psychiatry On call and promptly available.			°	E
(m)	Radiology On call and promptly available	D	D	E	≤

B. SPECIAL FACILITIES/RESOURCES/ CAPABILITIES

1. Emergency Department

(a) Personnel

1.	Designated Phys c an Director	D	E	E	E
2.	Emergency Physician				
	Full-time emergency medicine practitioner with special competence in care of the critically injured	○	°	≤	E
	Physicians who are qualified and experienced in caring for patients with traumatic injuries and who can initiate resuscitative measures	E	E		
	ACLS	D	E	E	□
	In-house and immediately available to patient on arrival in emergency depart-ment	○	E	E	E
	On call and promptly available	E			
	Anesthesiologist In-house and immediately available to patient on arrival in emergency department				E
	Anesthesiologist On-call and immediately available to patient on arrival in operating room. (Assumes 15 minute pre-hospital notification.)			≤	
	On call and promptly availab e anesthesiolog st or on call and promptly available Certified Registered Nurse Anesthetist.	E	≤		
b	Cardiology On call and promptly available.		D	E	E
c	Chest Medicine On call and promptly available.			D	E
d	Gastroenterology On call and promptly available.			D	E
e	Hematology On call and promptly available.		D	E	E
f)	Infectious Diseases On call and promptly			D	E
g)	Internal Medicine On call and promptly available.		E	E	E
(h)	Nephrology On call and promptly available.		D	E	E
	Neuroradiology On call and promptly available.				D

3.	Emergency Department Registered Nurse				
	ACLS	E	E	E	E
	A trauma life support course	D	D	E	E
	In Emergency Department and immediately available	E	E	E	E
	In-house and immediately available.	E			
c	Equipment for resuscitation and to provide life support for the critically or seriously injured shall include but not be limited to:				
1.	Airway control and ventilation equipment including laryngoscopes and endotracheal tubes of all sizes, bag-mask resuscitator, sources of oxygen and mechanical ventilator	E		E	E
2.	Suction devices	E	E	E	E
3.	Electrocardiograph-oscilloscope-defibrillator	E	E	E	E
4.	Apparatus to establish central venous pressure monitoring	E	E	E	E
5.	All standard intravenous fluids and administration devices, including intravenous catheters	E	E	E	E

6.	Sterile surgical sets for procedures standard for ED such as thoracostomy cut-down etc.	E	E	E	E
7.	Gastric lavage equipment	E	E	E	E
8.	Drugs and supplies necessary for emergency care	E	E	E	E
9a.	X-ray capability 24 hour coverage by in-house technicians	=	D	E	E
b.	Technician on-call and promptly available to patient on arrival in emergency department	=	=		
10.	Two-way radio linked with vehicles of emergency transport system	E	=	=	E
11.	Pneumatic Anti-Shock Garment	E	E	E	E
12.	Skeletal Traction device for cervical injuries	E	E	E	E
2.	Intensive Care Units (ICU) for Trauma Patients ICUs may be separate specialty units				
a)	Designated Medical Director		E	E	E
b)	Physician on duty in ICU 24 hours a day or immediately available		D	E	E
c)	Nurse-patient minimum ratio of 1:2 on shift		E	E	E

d.	Immediate access to clinical laboratory services	E	E	E
e.	Equipment:			
1.	Airway control and ventilation devices	E	E	E
2.	Oxygen source with concentration controls	E	E	E
3.	Cardiac emergency cart	E	E	E
4.	Temporary transvenous pacemaker	E	E	E
5.	Electrocardiograph-oscilloscope-defibrillator	E	E	E
6.	Cardiac output monitoring	D	E	E
7.	Electronic pressure monitoring	D	E	E
8.				
9.				
10.				
11.				
12.				
13.				

3. Postanesthetic Recovery Room (PAR) (surgical intensive care unit is acceptable)

a)	Registered nurses and other essential personnel 24 hours a day	D	E	E	E
b.	Appropriate monitoring and resuscitation equipment	D	E	E	E
4.	Acute Hemodialysis Capability (or transfer agreement)		D	D	E
5.	Organized Burn Care	E	E	E	E
a)	Physician-directed Burn Center Unit staffed by nursing personnel trained in burn care and equipped properly for care of the extensively burned patient. OR				
b	Transfer agreement with nearby burn center or hospital with a burn unit.				
6.	Acute Spinal Cord Injury Management Capability	E	E	E	E
a)	In circumstances where a designated spinal cord injury rehabilitation center exists in the region, early transfer should be considered transfer agreements should be in effect.				
b)	In circumstances where a head injury center exists in the region, transfer should be considered in selected patients; transfer agreements should be in effect				
7.	Radiological Special Capabilities				
a)	Angiography of all types		D	E	E
b	Tomography			D	E
c					

d	In-house computerized [illegible]		E	E
	Technician on call and promptly available.		E	
8.	Rehabilitation Medicine	E	E	E	E
a)	Physician-directed Rehabilitation Service staffed by nursing personnel trained in rehabilitation care and equipped properly for care of the critically injured patient. OR				
b)	Transfer agreement when medically feasible to a nearby rehabilitation service.				

C. Operating Suite Special Requirements

Equipment, Instrumentation

.	Operating Room adequately staffed and equipped for trauma care.			
	Promptly available	E	E	
	Immediately available to patient on arrival in Operating Room or when requested by surgeon. (May be satisfied by one RN in-house and immediately available to the Operating Suite with the remainder of the crew on call and promptly available.)		E	

	In-house staff and Operating Room immediately available to patient on arrival in emergency department. (Assumes 5 minute pre-hospital notification			M
2.	Cardiopulmonary bypass capability		D	E
3.	[illegible] pe			
4.	he ma tr eq me			
5.	X-Ray capability	E	E	E
6.	Endoscopes	D	E	E
7.	Craniotome	D	D	E
8.	Monitoring Equipment	M	E	E

°. Clinical Laboratories Services lable 24 hours a day

1.	Standard analyses of blood, urine and other body fluids	E	E	E
2.	ood ty -ma			
3.	Coagulation studies	E	E	E
4.	Comprehensive blood bank or access to a community central blood bank and adequate hospital storage facilities	M	M	M
.	Blood gases and pH determinations	E	E	E
6.	Serum and urine osmolality	D	D	E
7.	Microbiology	E	E	E
8.	Serum alcohol determination	E	E	E
9.	Drug Screening	D	D	E

E.	Qua ity Assurance				
	1. Organized Quality Assurance Program		E	E	E
	2. Special audit for all trauma deaths and other specified cases		E	E	E
	3. Morbidity and mortality review		E	E	E
	4. rauma conference, multidisciplinary Regular and periodic multidisciplinary trauma conferences that include all members of the trauma team. This conference will be for the purpose of quality assurance through critiques of individual cases				E
	5. Medical nursing audit, utilization review. tissue review		E	E	E
	6. Trauma reg stry rev ew Documentation of severity of injury and outcome by trauma score, age, injury severity score, TRISS, survival, length of stay, ICU length of stay with monthly rev ew of statistics.		E	E	E
	Full participation in the Division Trauma Registry and quality assurance activities as prescribed in the area plan	E	E	E	E
	. Review of prehospital and regiona systems of trauma care		D	D	E
F.	Outreach Program: Telephone and on-site consultations with physicians of the community and outlying areas.			D	E

G.	Public Education: injury prevention in the home and industry, and on the highways and athletic fields; standard first-aid; problems confronting public, medical profession, and hospitals regarding optimal care for the injured		o	o	E E
H.	Trauma Research Program			D D	E
I.	Training Program				
	1. Formal program continuing educat on provided by hospital for:				
	a) taff physicians			D F	F
	b)				
	c) Allied pe				
	d) ommu ty				
	e) reho ta ne				
	2. Accredited genera surgery residency program				E