METHODOLOGY

PROJECT DESCRIPTION

In February 2006 Bishop+Associates (B+A) was engaged by Oklahoma State Department of Health to study the Oklahoma Trauma System. B+A has focused exclusively on trauma care since 1984 and is the nation's most experienced firm in trauma care economics, finance and management. B+A has conducted similar projects for multiple trauma centers in a variety of regions in the nation, as well as over 65 individual trauma centers.

The purpose of this project was to develop an expert, objective analysis of the economic status of Oklahoma's trauma care system and centers. Participants included:

Regional Trauma Centers	
• Oklahoma University Medical Center	
• Deaconess Hospital	• Norman Regional Hospital
• Integris Bass Baptist Medical Center	• St. Anthony Hospital
• Mercy Health Center	• St. Francis Hospital
• Midwest Regional Medical Center	• St. John Medical Center
Community Trauma Centers	
• Cleveland Area Hospital	• McCurtain Memorial Hospital
• Comanche County Memorial Hospital	• Memorial Hospital & Physician Group
• Elkview General Hospital	• Parkview Hospital
• Fairfax Memorial Hospital	• Prague Municipal Hospital
• Grady Memorial	• Sequoyah Memorial Hospital
• Henryetta Medical Center	• Southwest Memorial Hospital
• Holdenville General Hospital	• St. Mary's Regional Medical Center
• Jackson County Memorial Hospital	• Tulsa Regional Medical Center
• Jefferson County Hospital	• Unity Health Center
• Latimer County General Hospital	• Wagoner Hospital

The project results will be used to address the issue of public funding, regional trauma center capacity, and the barriers and economic threats to the trauma system to inform policymakers at the State and local level, and identify achievable steps to assure public access to trauma care in Oklahoma. The report is segmented into the following sections:

Regional and Community Trauma Centers Economic Assessment
Data was collected and consolidated into a financial profile for all trauma centers in Oklahoma. Comparisons with revenue and cost norms from Bishop+Associates' database on trauma center financial performance were made to objectively assess performance. Findings include the following:

- Trauma Center Volume, Severity and Length of Stay
- Trauma Center Patient Treatment Costs
- Trauma Center Extraordinary Costs

- Trauma Medical Staff Costs
- Total Trauma Center Costs

Regional Trauma Centers Qualitative Survey Results
A survey was developed that defined issues of concern to Oklahoma trauma system participants, including trauma centers serving their local communities and other hospitals that either refer or transfer injury patients to trauma centers. All nine of the Level I, II and III trauma centers provided feedback regarding trauma system issues.

Community Trauma Centers Qualitative Survey Results
A survey was developed that defined issues of concern to Oklahoma trauma system participants, including trauma centers serving their local communities and other hospitals that either refer or transfer injury patients to trauma centers. Twenty Level III and IV trauma centers provided feedback regarding trauma system issues.

PROJECT METHODOLOGY

The data in this report is presented in a consolidated manner that will preclude the disclosure of individual hospital and trauma program information. The report is combined for all levels in the quantitative section and is broken down by regional and community for the qualitative section.

Economic Assessment for Regional and Community Trauma Centers
This analysis was conducted on state trauma registry and hospital data provided by regional and community trauma centers on patients meeting trauma center triage criteria for the year 2005 who were admitted. Additional data was collected via questioner requesting the hospital payer mix, trauma physician support, severity mix based on ISS scores, etc. to be used for comparison and to assure accurate data.

System Assessment
Oklahoma trauma centers, based on their designation level, received a system survey. The system survey was designed to capture issues and concerns specific to the type of care provided by trauma. A total of 37 surveys were sent to the Oklahoma trauma centers; one to Level Is, eight to Level IIIs (assist) and twenty eight to Level IIIs and IVs. Seventy eight percent (29 out of 37) of the surveys were completed and returned to B+A. (See surveys.)

An Analysis of 2004 Oklahoma University Medical Center,
Oklahoma County and State of Oklahoma
Trauma Patient Admissions

Issues/Questions Addressed by this Analysis

1. How many trauma patients were admitted to Oklahoma University Medical Center in 2004?

2. What were the levels of injury severity and types of trauma patients admitted to the Medical Center and how did the hospital's findings compare to overall Oklahoma trauma admission findings?

3. What was the percentages of Oklahoma County and state residents with traumatic injuries admitted to Oklahoma University Medical Center and to other Oklahoma trauma center hospitals?

Data Set Used: Oklahoma Department of Health 2004 Inpatient Discharge Public Use Data Set

Data Set Limitations:

There were two major limitations to the data base. **The first was the lack of identification of the payor or financial classification of the patients. This data field was nonexistent.** The second limitation as the lack of a key for the hospital identifier numbers. There was, however, a data field for these numbers that could be used by someone who had the key.

Data set ranges:

1. State of Oklahoma and Oklahoma County residents admitted to acute care hospitals in the county and to designated trauma centers
2. Trauma admissions to Oklahoma University Medical Center irrespective of where the patient resided.

Data set definitions:

: Select ICD9-CM trauma diagnoses which selectively e**xclude fractured hip and non-trauma injury admissions.**

Clinical Information

A. Oklahoma University Medical Center

1. Trauma Admissions by Injury Severity Levels

Description

The first chart identifies the number of trauma patients admitted to Oklahoma University Medical Center (1,652) and the number and percentage of trauma patients at each level of injury severity. For instance, 365 patients were admitted with minor to moderate trauma injuries and they comprised 22.09 % of all trauma admissions compared to 38.74% statewide findings. The second chart compares the hospital findings to statewide findings for average LOS and total charges.

	Oklahoma University Medical Center (OUMC)		
Injury Severity	OUMC Admissions	OUMC %	Statewide %
Minor to Moderate Trauma Patients (ISS < 9)	365	22.09%	38.74%
Moderate to Major Trauma Patients (ISS >= 9 and ISS < 16)	550	33.29%	36.42%
Major Trauma Patients (ISS >= 16 and ISS < 25)	487	29.48%	19.22%
Severe Trauma Patients (ISS >= 25)	250	15.14%	5.62%
Total	**1,652**	**100.00%**	**100.00%**

	Average Length of Stay		Average Charges	
Injury Severity	OUMC	Statewide	OUMC	Statewide
Minor to Moderate Trauma Patients (ISS < 9)	4	5	$25,773	$14,573
Moderate to Major Trauma Patients (ISS >= 9 and ISS < 16)	7	6	55,403	26,091
Major Trauma Patients (ISS >= 16 and ISS < 25)	9	8	75,350	41,130
Severe Trauma Patients (ISS >= 25)	16	14	149,108	102,876
Total	8	7	$68,917	$28,833

2. Where Oklahoma University Medical Center Trauma Patients Resided

Description

This chart depicts where the trauma patients admitted to Oklahoma University Medical Center resided and where their injuries were most likely to have occurred. The chart also identifies the number of county residents at each level of injury severity.

Hospital Name	Total Trauma Admissions	ISS < 9	ISS >= 9 & < 16	ISS >= 16	ISS >= 25
Oklahoma	681	178	233	181	89
Cleveland	117	23	46	29	19
Pottawatomie	79	14	38	20	7
Canadian	77	15	27	23	12
Out of State	73	3	25	28	17
Grady	36	8	9	17	2
Lincoln	31	5	7	15	4
MCClain	30	8	6	8	8
Garvin	30	1	11	13	5
Logan	28	5	11	6	6
Carter	28	3	6	10	9
Beckham	27	7	10	6	4
Seminole	27	7	7	10	3
Comanche	26	4	6	12	4
Payne	26	3	9	6	8
Caddo	25	8	4	9	4
Woodward	25	8	7	5	5
Subtotals	1366	300	462	398	206
Less than 25 Admis.(From 61 other OK counties)	286	65	88	89	44
Total	1652	365	550	487	250

B. State of Oklahoma Findings

1. Trauma Admissions by Level of Injury Severity

Description

This chart lists for each injury severity level the number of residents admitted as trauma patients to any acute care hospital in the state and the percentage of the patients at each injury severity level admitted to designated Level I and Level II trauma centers. For example, 142 state residents were admitted as minor to moderate trauma patients and 7.75% of these patients were admitted to trauma centers.

Injury Severity	Number	Percentage admitted to Level I and II
Minor to Moderate Trauma Patients (ISS < 9)	4,097	27.75%
Moderate to Major Trauma Patients (ISS >= 9 and ISS < 16)	4,851	28.24%
Major Trauma Patients (ISS >= 16 and ISS < 25)	2,033	55.045
Severe Trauma Patients (ISS >= 25)	594	80.30%
Total	**10,575**	38.80%

C. Oklahoma County Findings

1. Trauma Admissions by Level of Injury Severity and County Trauma Admissions to Oklahoma University Medical Center

Description

This chart identifies the number of Oklahoma County residents admitted to any acute care hospital in the state of Oklahoma (1,937) and the number and percentage of County resident trauma patients admitted to Oklahoma University Medical Center (681)... The chart also identifies the percentage of County residents at each level of injury severity admitted to Oklahoma University Medical Center. For instance, 178 or 25.00% of the County residents with minor to moderate trauma injuries were admitted to OUMC.

	Oklahoma County		
Injury Severity	County Trauma Admissions	Admitted to OUMC	% Admitted to OUMC
Minor to Moderate Trauma Patients (ISS < 9)	712	178	25.00%
Moderate to Major Trauma Patients (ISS >= 9 and ISS < 16)	731	233	31.87%
Major Trauma Patients (ISS >= 16 and ISS < 25)	388	181	46.65%
Severe Trauma Patients (ISS >= 25)	106	89	83.76%
Total	**1,937**	**681**	**35.16%**

2. Where County Resident Trauma Patients were admitted

Description:

The charts on the following pages depict the hospitals located in the State of Oklahoma that admitted County residents with traumatic injuries, the number of admissions by injury severity level.

Hospital Name	Total Trauma Admissions	ISS < 9	ISS >= 9 & < 16	ISS >= 16	ISS >= 25
OUMC	681	178	233	181	89
3374	232	83	97	47	5
8446	211	78	92	40	1
6302	174	85	63	23	3
8421	154	71	52	31	0
3514	141	66	58	16	1
7110	101	49	42	10	0
6830	48	15	19	11	3
5087	46	25	17	3	1
6648	21	7	8	5	1
2727	16	7	8	1	0
St Francis MC	16	3	4	7	2
9198	13	7	4	2	0
1141	11	8	2	1	0
Subtotals	1865	682	699	378	106
. 24 hospitals with less than 10 county resident admissions	72	30	32	10	0
Total	1937	712	731	388	106

4. Trauma Admissions by Injury Categories

Description

This chart identifies the number of trauma patients admitted to Oklahoma University Medical Center in each clinical category, the percentage of trauma patients in each category and how the hospital compares to statewide and Oklahoma County findings. For instance, 114 patients were admitted with maxillofacial injuries and they represented 6.90% of the trauma patients admitted to the hospital. Statewide, patients with maxillofacial injuries represent 5.47% of the trauma admissions and 5.32% of the County residents were admitted with traumatic injuries.

	Admissions	**Percentages**	**Statewide Percentages**	**County Percentages**
Burns	3	.18%	.24%	.15%
Maxillofacial	114	6.90%	5.47%	5.32%
Ophthalmic	2	.12%	.09%	.05%
Upper Extremity	96	5.81%	4.57%	4.65%
Lower Extremity	70	4.24%	2.93%	2.79%
Physical/chem.	3	.18%	.28%	.21%
Abdominal	198	11.99%	10.05%	10.94%
Thoracic	222	13.44%	15.00%	15.18%
Spine	202	12.23%	17.42%	17.50%
Head	512	30.99%	27.17%	24.26%
Femur/pelvic	188	11.38%	14.54%	15.59%
Superficial	1	.06%	.08%	.15%
Other	41	2.48%	2.21%	3.21%
Total	1,652	**100.00%**	**100.00%**	**100.00**

Additional Analysis

Tulsa County Trauma Admissions

Injury Severity	Tulsa County Trauma Admissions	Number Admitted to Local Trauma Centers	% to Trauma Centers
Minor to Moderate Trauma Patients (ISS < 9)	659	455	69.04
Moderate to Major Trauma Patients (ISS >= 9 and ISS < 16)	579	424	73.23
Major Trauma Patients (ISS >= 16 and ISS < 25)	388	300	77.32
Severe Trauma Patients (ISS >= 25)	101	93	92.08
Total	1727	1272	73.65

Level II Trauma Centers located in Tulsa County

Injury Severity	St Francis Medical Center	St Joseph Medical Center
Minor to Moderate Trauma Patients (ISS < 9)	240	215
Moderate to Major Trauma Patients (ISS >= 9 and ISS < 16)	217	207
Major Trauma Patients (ISS >= 16 and ISS < 25)	155	145
Severe Trauma Patients (ISS >= 25)	48	45
Total	**660**	**612**

Region1	County	Pop.	Region 2	County	Pop.	Region 3	County	Pop.	Region 4	County	Pop.
NORTHWEST	Alfalfa	5,810	NORTHEAST	Craig	14,873	SOUTHWEST	Caddo	30,167	EAST CENTRAL	Adair	21,657
	Beaver	5,474		Delaware	39,088		Carter	47,087		Cherokee	44,106
	Beckham	19,347		Kay	46,761		Comanche	110,514		Creek	68,666
	Blaine	11,290		Mayes	39,274		Cotton	6,514		Haskell	12,088
	Cimarron	2,897		Noble	11,233		Garvin	27,229		McIntosh	19,939
	Custer	25,230		Nowata	10,717		Grady	48,176		Muskogee	70,626
	Dewey	4,667		Osage	45,181		Greer	5,849		Okmulgee	39,890
	Ellis	3,932		Ottawa	32,737		Harmon	2,997		Sequoyah	40,578
	Garfield	57,282		Pawnee	16,834		Jackson	27,182		Wagoner	63,054
	Grant	4,824		Payne	69,675		Jefferson	6,460			
	Harper	3,397		Rogers	79,042		Johnston	10,440			
	Kingfisher	14,176		Washington	46,027		Kiowa	9,879			
	Major	7,363					Love	9,133			
	Roger Mills	3,259					Murray	12,682			
	Texas	20,296					Pontotoc	35,007			
	Washita	11,512					Stephens	42,826			
	Woods	8,570					Tillman	8,785			
	Woodward	18,741									
6.5%	Total Pop	228,067	12.8%	Total Pop	451,442	12.5%	Total Pop	440,927	10.8%	Total Pop	380,604
	Total Hosp $	160,950		Total Hosp $	195,407		Total Hosp $	369,667		Total Hosp $	98,131
	Total EMS $	31,884		Total EMS $	131,042		Total EMS $	94,276		Total EMS $	77,223
	Total Phys $	4,996		Total Phys $	1,648		Total Phys $	20,862		Total Phys $	6,459
1.3%	Total TF $	197,830	2.1%	Total TF $	328,097	3.1%	Total TF $	484,805	1.2%	Total TF $	181,813
7.0%	Trauma Admits	694	7.3%	Trauma Admits	723	6.5%	Trauma Admits	643	2.8%	Trauma Admits	273

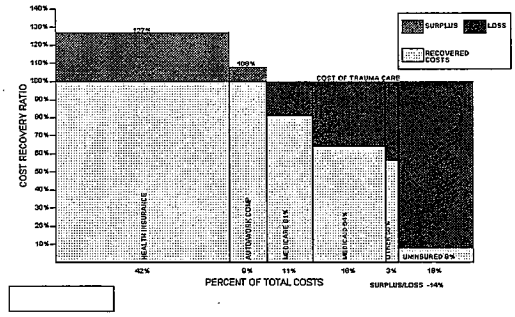
Region 5	County	Pop.	Region 6	County	Pop.	Region 7	County	Pop.	Region 8	County	Pop.
SOUTHEAST	Atoka	14,255	CENTRAL	Canadian	95,505	TULSA	Tulsa	569,148	OKLAHOMA	Oklahoma**	680,815
	Bryan	37,758		Cleveland *	222,074					Moore	44,987
	Choctaw	15,451		Lincoln	32,386					Norman	99,197
	Coal	5,928		Logan	36,301					Yukon	21,043
	Hughes	14,016		McClain	29,070						
	Latimer	10,647		Pottawatomie	67,111						
	Le Flore	49,161		Less: Moore	(44,987)						
	Marshall	13,860		Less: Norman	(99,197)						
	McCurtain	34,046		Less: Yukon	(21,043)						
	Okfuskee	11,637									
	Pittsburg	43,950									
	Pushmataha	11,715									
	Seminole	24,679									
				* Moore, Norman & Yukon - Reg 8						** Includes Moore, Norman & Yukon	
8.2%	Total Pop	287,103	9.0%	Total Pop	317,220	16.2%	Total Pop	569,148	24.0%	Total Pop	846,042
	Total Hosp $	131,570		Total Hosp $	30,037		Total Hosp $	4,141,449		Total Hosp $	8,390,433
	Total EMS $	89,297		Total EMS $	6,700		Total EMS $	168,091		Total EMS $	312,115
	Total Phys $	448		Total Phys $	3,977		Total Phys $	349,947		Total Phys $	673,042
1.4%	Total TF $	221,315	0.3%	Total TF $	40,714	30.1%	Total TF $	4,659,487	60.5%	Total TF $	9,375,590
4.9%	Trauma Admits	486	4.1%	Trauma Admits	405	30.7%	Trauma Admits	3,045	36.8%	Trauma Admits	3,652

Total Population for Oklahoma		3,520,553
Total Trauma Fund Distributions 8/06	$	15,489,651
Total Trauma Admits-2005		9,921
Trauma Fund $ Per Admit	$	1,561
Trauma Incidence/1000		2.82

TRAUMA & EMERGENCY CARE PHYSICIAN PAYMENT MODELS FOR OKLAHOMA

Greg Bishop, MBA
Bishop+Associates

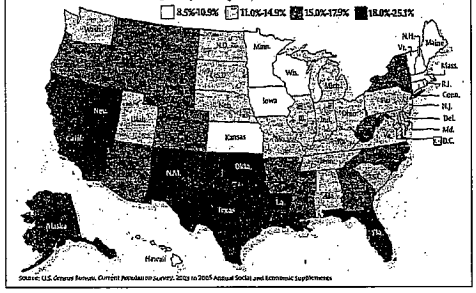
National Trauma Center Reimbursement Profile 2002



Comparing statewide uninsured rates

State health care uninsured rates, using three-year averages from 2002-04:

8.5%-10.9% 11.0%-14.9% 15.0%-17.9% 18.0%-25.1%



Problematic Physician Call Structures

- Fragile, Complex, Unstable Structures
- Major Burden on Physicians
- Diversion, Closures & Poor Patient Care
- Balkans of Hospital/Physician Relations
- Expanding To ED Call

Multiple Contributing Factors

- Increasing Numbers of Uninsured Patients
- Incompatibility with Private Practice
- Shortages of Trauma Specialists
- Malpractice
- Physician Payment Penalizes Trauma
- Managed Care Escapes Paying its Share
- Demise of Community ED Call Panels

Physician Billing/Payment Solutions

- Eliminate Uninsured Patients
- Support Private Practice Alt. of Surgical Hospitalist
- Increase Trauma Specialists With Incentive
- Serve As Vehicle for Malpractice Coverage
- Provide Appropriate Physician Payment For Trauma
- Assure Managed Care Pays its Share
- Support Statewide Community ED Call Panels

Physician Billing/Payment Solutions

- Consolidated Trauma Physician Billing Programs
- Emergency Associates Model
- Los Angeles County/California
- Washington, Maryland
- Texas, TRISAT
- New Mexico
- Medicaid

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Consolidated Trauma Physician Payment/Billing Programs

Alternatives

- Patient Eligibility
- Payment Rates
- Payment On Uninsured
- Collection/Payment On Insured
- Physician & Hospital

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Consolidated Trauma Physician Payment/Billing Programs

- Patient Eligibility Determination
- Documentation
- Coding
- EOB
- Insured Patient Billing System (Optional)
- Appeals
- Payment on Uninsured/Insured
- Reporting System

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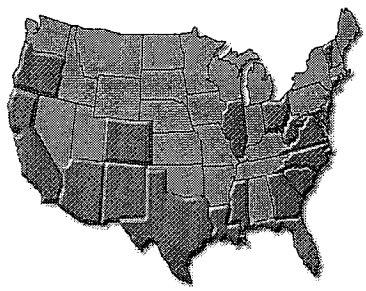
Emergency Associates, Inc.



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Emergency Associates, Inc.

- Hospital Based – EMR System
- Only National System
- Payment On Uninsured
- Billing & Payment On Insured

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Physician Billing/Payment Solutions

- Los Angeles County/California
- Washington, Maryland
- Texas, TRISAT
- New Mexico
- Medicaid

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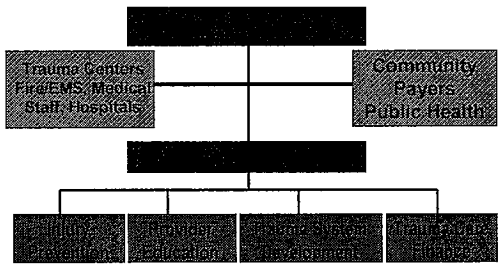
State Trauma Foundation Model



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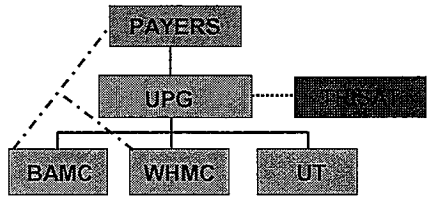
Integrated Faculty Practice



- UPG Carves Trauma Out Of MCO Contracts
- BAMC/WHMC Contracts With UPG For Billing
- UPG Contracts With Payers On Behalf of BAMC/WHMC
  - Or Uses BAMC/WHMC Provider Numbers In Billing
- TRISAT Conducts Oversight Of Billing

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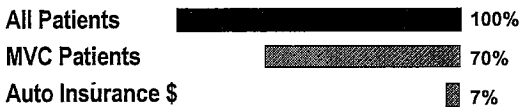
Auto Insurance & Trauma Care

Trauma Center Revenue In Arizona From Auto Insurance



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Trauma Cost Management

- Higher Quality Drives Cost Lower
- Trauma's Integrated Systems Are Vehicle For Cost Management
- Financial Incentives Are Mixed
- Trauma Center Cost Benchmarks

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Project Work Plan

CONDUCT ECONOMIC ANALYSIS OF TRAUMA CARE

- Conduct In-Depth Survey of Major Trauma Centers
- Conduct Survey of Regional Trauma Centers
- Determine Trauma Physician Participation/Compensation

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Project Work Plan

EXPLORE OPPORTUNITIES FOR TRAUMA SYSTEM

- Assess Best Practices Re: Trauma Physician Support
- Assess Opportunities For Federal Matching Funds
- Identify Best Practices Re: Liability Limitations
- Explore New Funding Streams For Trauma Care
- Assess Other Opportunities Identified In Project

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Project Work Plan

DEVELOP TRAUMA SYSTEM RECOMMENDATIONS

- Trauma Physician Payment Model
- Trauma Hospital Payment Model
- Facility Pay or Play System Model
- Physician Community Call System Model
- Centralized Funding Entity
- Transfer Management System
- Develop Concept For Expansion Of Trauma System To Broader ED Call

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Strategic Planning

Conduct Planning Meeting In July, 2006

- Key System Stakeholders
- Map Out Major System Components
- Define Vision For 2010
- Define Major Tasks, Timeframes & Responsibilities

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Questions, Comments

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OKLAHOMA TRAUMA SYSTEM WORKSHOP
August 1, 2006

Greg Bishop, MBA
President
Bishop+Associates

KEY STAKEHOLDER INPUT

- **OK State Department of Health**
- **Urban/Suburban/Rural RTAB's**
- **CEO's and Hospital Administrators**
- **Medical Staff Leaders**
- **Medical Society Leadership**
- **EMSA**
- **OTSIDAC Membership**

WORKSHOP OBJECTIVES

- **Review economic assessment**
- **Solicit feedback from key stakeholders**
- **Develop economic framework for a stable, high quality trauma system for decades**

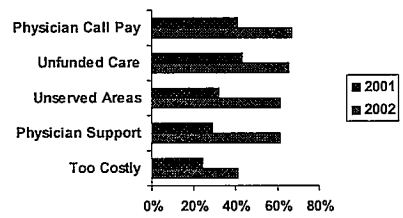
REGIONAL TRAUMA CENTERS

- Like Fire & Police Services, Trauma Centers Provide a Critical & Essential Public Service.
- Trauma Centers Require a Collaborative Partnership Between a Hospital, Its Medical Staff & Community
- To be sustainable, Trauma Centers Need To Produce A Positive Impact Upon the Hospital & Medical Staff
- Trauma systems need to have sufficient capacity to not overwhelm individual trauma centers.

STATE TRAUMA SYSTEM ECONOMIC CHALLENGES

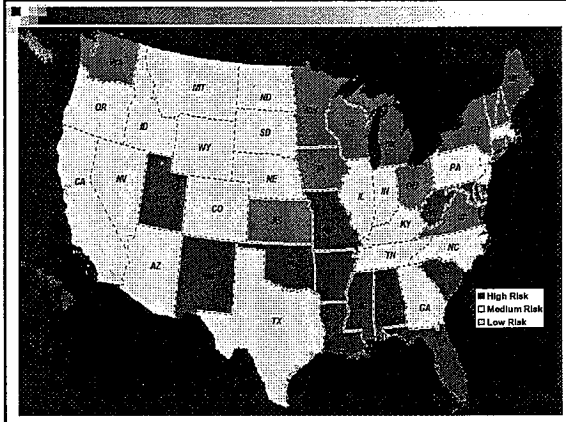
- In 2001, 17 state trauma systems on average reported their trauma centers confronting these top 5 economic threats.
- In 2002, this rose to on average of 30 states.

Top Economic Threats 2001-2002



Deteriorating Trauma Center Medical Staff Support

- Disruptive Impact Upon Private Practice
- Increasing Lifestyle Considerations
- Reductions in Surgical Resident Hours
- Trend to Outpatient Surgery/Specialty Hospitals
- Deteriorating Economic Support in Academic Medical Centers
- Shortages of Trauma Specialists
- Rising Malpractice costs
- Escalating costs for Trauma Physician Support



Summary and Implications

- Trauma centers are nationally jeopardized by converging economic threats that include increasing numbers of uninsured patients, reduced support by physicians, and increasing costs for medical staff support.
- Without significant public support, the U.S. will lose 10-20% of its regional trauma centers over the next 3 years.
- Trauma centers in other regions will continue to deteriorate.

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NATIONAL TRAUMA CENTER FINANCIAL PROFILE

- Total Trauma Patient Volume: 678,320
- National Norm for per Patient Costs: $9,603
- Total Patient Treatment Costs: $6.5 billion
- Medical Staff Treatment Costs: $2.6 billion
- Extraordinary Standby Costs: $960 million
- Total Trauma Center Loss: $1.1 billion
- Uninsured Patient Loss: $1.2 billion

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U.S. TRAUMA CENTER ECONOMIC STATUS

Trauma Center Volume/Severity

ISS SCORE	VOLUME	RATE*
0-8	369,491	1.34
9-14	190,260	0.69
15-24	63,420	0.23
25+	55,148	0.20
Total	**678,320**	**2.46**

*Per 1,000 U.S. Population
U.S. Trauma Center Economic Status, 2003, NFTC

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PATIENT TREATMENT COSTS

ISS Range	Volume	Ave Cost	Total Costs
0-8	369,491	$5,060	$1,869,624,460
9-14	190,260	$10,002	$1,902,980,520
15-24	63,420	$17,222	$1,092,219,240
25+	55,148	$29,906	$1,649,256,088
Total	**678,320**	**$9,603**	**$6,514,080,308**

U.S. Trauma Center Economic Status, 2003, NFTC

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TOTAL 2002 ACUTE TRAUMA CARE COSTS

- Trauma center patient treatment costs: $6.5 billion
- Extraordinary costs: $960 million
- Trauma center medical staff costs: $2.6 billion
- **Total acute trauma care costs: $10.1 billion**

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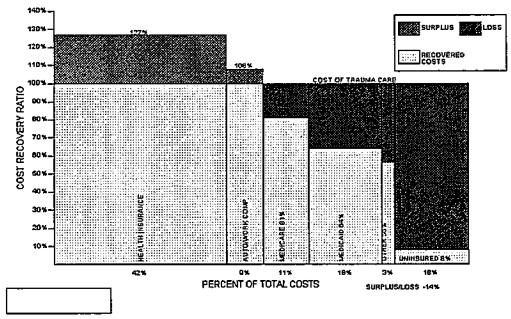
National Trauma Center Reimbursement Profile



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13

BOTTOM LINE-U.S. TRAUMA CENTERS

U.S. Trauma Centers	Amount	% of Costs	Per Patient
Revenue	**$6,392,580,887**	**86%**	**$9424**
Treatment Costs	$6,514,080,308	87%	$9603
Extraordinary Costs	$960,000,000	13%	$1415
Trauma Center Total Costs	**$7,474,080,308**	**100%**	**$11,019**
Surplus/Loss	**($1,081,499,421)**	**(14%)**	**($1,594)**

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14

Financial Assessment-Oklahoma

Methodology uses data and information on trauma system/center financial performance from trauma registry, hospital data, state hospital discharge data set, and the National Foundation for Trauma Care.

- Volume & Severity
- Trauma Patient Treatment Costs
- Extraordinary Standby Costs
- Patient Payer Mix/Revenue
- Trauma Center Bottom Line
- Total Acute Trauma Care Costs

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15

Trauma Center Volume/Severity from State Trauma Registry

ISS Score	OK TC's 2004	% of Vol	OK TC's 2005	% of Vol	% Increase 04 to 05
ISS 0 - 8	2,592	31%	3,475	35%	34%
ISS 9 - 14	3,408	41%	4,057	41%	19%
ISS 15- 24	1,298	16%	1,329	13%	2%
ISS > 24	946	11%	1,060	11%	12%
Total/Ave	**8,244**	**100%**	**9,921**	**100%**	**20%**

Validated with Discharge Data Set and individual hospital analyses.

Does Not Include Data From Texas & Kansas Trauma Centers

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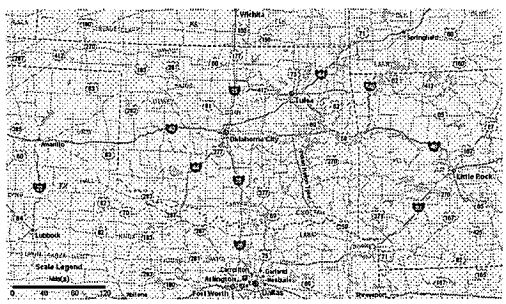
16

Map of Service Area



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17

Projected Volume for OK Based on U.S. Rates

ISS Score	National Rate	OK Population	Projected # of Pts	OK 2005 Vol.	% of National Norm
ISS 0 - 8	1.34	3,547,884	4,754	3,475	73%
ISS 9 - 14	.69	3,547,884	2,448	4,057	166%
ISS 15- 24	.23	3,547,884	816	1,329	163%
ISS > 24	.20	3,547,884	710	1,060	149%
Total/Ave	**2.46**	**3,547,884**	**8,728**	**9,921**	**114%**
ISS > 15			**1,526**	**2,389**	**157%**

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18

Projected Volume for NM Based on U.S. Rates
(including Transfers to Texas)

ISS Score	National Rate	NM Population	Projected # of Pts	NM 2004 Vol.	% of National Norm
ISS 0 - 8	1.34	1,874,614	2,512	1,682	67%
ISS 9 - 14	.69	1,874,614	1,293	1,312	101%
ISS 15- 24	.23	1,874,614	431	833	193%
ISS > 24	.20	1,874,614	375	433	115%
Total/Ave	**2.46**	**1,874,614**	**4,612**	**4,260**	**92%**
ISS > 15			**806**	**1,266**	**157%**

Projected Oklahoma Trauma Patient Treatment Costs

ISS	#Pts	%	National Norm Cost/Pt	Projected Total Costs
0 - 8	3,475	35%	$5,334	$18,535,372
9 - 14	4,057	41%	$10,609	$43,041,200
15 - 24	1,329	13%	$16,672	$22,156,849
>24	1,060	11%	$34,742	$36,826,170
Totals	9,921	100%	$16,902	$120,559,591

Surveys received to date reflect costs are at or under national cost norms.

Oklahoma Trauma Center Physician Standby Costs

	Trauma Surgeons	Neurosurgery	Orthopaedic Surgery	Plastic/ ENT	Anesthesia	Other	Total
Total:	$2,498,750	$2,656,500	$1,145,170	$467,000	$1,966,500	$795,494	$9,529,414

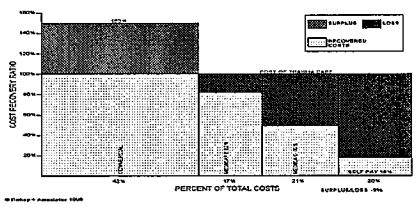
Other includes Hand, Radiology, Peds Surgery, Opth, and Prim. Care

Trauma Center Costs & Revenues by Payer Class

Payer	Total Costs	Cost %	Revenue	CRR
Health Insurance	$50,635,028	42%	$75,952,542	150%
Medicare	$20,495,130	17%	$16,806,007	82%
Medicaid ***	$25,317,514	21%	$12,405,582	49%
Uninsured	$24,111,918	20%	$4,340,145	18%
Total	**$120,559,591**	**100%**	**$109,504,276**	**91%**

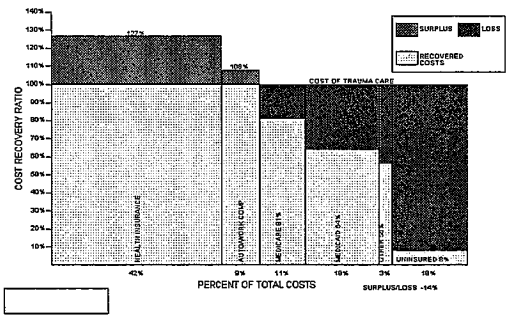
Medicaid raised rates to Medicare payment levels in late 2005. This results in an $8.4M improvement in revenue to trauma centers in OK.

Oklahoma Trauma Center Reimbursement Profile



Surpluses are indicated in green, losses in red, recovered costs in yellow.

National Trauma Center Reimbursement Profile



Bottom Line- OK Trauma Centers

Oklahoma Trauma Centers	Amount	% of Costs	Per Patient
Revenue	**$109,504,276**	**84%**	**$11,038**
State Trauma Fund	**$12,401,798**	**10%**	**$1,250**
Direct Patient Costs	$80,774,926	62%	$8,142
Indirect Patient Costs	$39,784,665	31%	$4,010
Total Trauma Patient Care Costs	**$120,559,591**	**93%**	**$12,152**
Physician Call Costs ***	$9,529,414	7%	$961
Total Costs	$130,089,005	100%	$13,112
Loss	**-$8,182,931**	**-6%**	**-$825**

*** Does not include non-physician hospital stand-by costs.

Total Acute Trauma Care Costs

- Total trauma center costs: $130,089,005
- **Trauma physician costs:** $ 45,531,152
- **Total acute trauma care costs:** **$175,620,157**

Oklahoma Uninsured Trauma Patient Care Costs

- Trauma Center Uninsured Care $19.8 million
- TC Physician Call $ 1.9 million
- Physician Uninsured Care $ 8.4 million
- **Total Uninsured Trauma Pt. Care Costs** **$30.1 million**

Above totals do not include EMS costs, but does include costs of uninsured patients with ISS 0-8.

REGIONAL TRAUMA CENTER SURVEY RESPONSES (I,II, III)

- 90% said appropriate patients transferred
- 100% said cannot accommodate all requests for transfers
- Most pressing issues
  - Physician participation in call
  - Bed availability
  - Neuro coverage

COMMUNITY TRAUMA CENTER SURVEY RESPONSES (III, IV)

- 94% said there's a clear and effective transfer process
- 56% said there are obstacles to transferring patients
  - Hospital on divert
  - Limitations for neuro, peds, and plastics
- Process has improved with rotating call, transfer center, and EMS.

OVERVIEW OF KEY ISSUES

- **State trauma fund payments**
- **Trauma physician billing/payment system**
- **Medicaid matching funds**
- **Community call/Pay or play**
- **Sources of Funding**

OVERVIEW OF KEY ISSUES

- Malpractice limitations
- Regional/hospital transfer centers
- Concept of Emergency/Trauma Authority
- Trauma Center Capacity
- Trauma support for OUMC
- Expansion of trauma system to ED call

STATE TRAUMA FUND PAYMENTS HOSPITAL/EMS PAYMENTS

- Hospital/EMS Payments
  - 70% of fund plus unused physician allocation
  - Payment for ISS >8, Cost-Payments Rec'd
  - Annualized payments from 12/05 distribution
    - Including unused physician allocation $2,852,000
    - Hospital $12,401,796 (85% of total)
    - EMS $702,834 (5% of total)
  - Formula is economically sound
  - Consideration of payment for rehab facilities

STATE TRAUMA FUND PAYMENTS PHYSICIAN PAYMENTS

- Physician Payments
  - 30% of Fund; unused $ goes to Hospital/EMS
  - ISS > 8, Payment at Medicare rates less payments rec'd
  - Annualized payments from 12/05 distribution
    - $1,541,940 (10% of total)
    - Unused physician allocation $2,852,000
  - Formula is economically sound
  - Hand Surgery Reimbursement
  - Maxillofacial Surgery Reimbursement

PHYSICIAN BILLING/PAYMENT SOLUTIONS

- Eliminate Many Uninsured Patients
- Support Private Practice Alt. (Surgical Hospitalist)
- Increase Trauma Specialists With Incentive
- Serve As Vehicle for Malpractice Coverage
- Provide Appropriate Physician Payment For Trauma
- Assure Managed Care Pays its Share
- Support Statewide Community ED Call Panels

TRAUMA PHYSICIAN BILLING/PAYMENT SYSTEM

- Optimizes billing and coding practices
- Focused efforts of staff
- Contract at higher reimbursement rates to compensate for more difficult work
- Consolidate billing, coding, collections, and reimbursement activities

Emergency Associates, Inc.

- Hospital Based – EMR System
- Only Widespread System
- Payment On Uninsured
- Billing & Payment On Insured
- Being Considered In Arizona
- Alternative – Build Your Own

MEDICAID MATCHING FUNDS

- **OK maximizes Medicaid payments now**
- **Potential for 2:1 match ($20M >>>$60M)**
- **Challenge is determining how to spend additional $**
- **Focus should be on Emergency Care**
- **Recommend Task Force convene in Fall**

COMMUNITY CALL/PAY OR PLAY

- Pay Component
- Source of Revenue
- Other Alternatives
- Political Support/Opposition?

COMMUNITY CALL KEY ISSUES

- Who Do You Want To Participate?
- Does Payment Solve Problem?
- Is Key Specialty Recruitment Required?
- How To Deal With Neurosurgery (Yuma)
- Other Concerns

PAYMENT NORMS FOR CALL PARTICIPATION

- Regional Trauma Centers
  - Payment amount depends upon volume, role, payment on uninsured, etc.
- Backup Trauma Centers
  - Key specialties-Small Stipend per day + uninsured pmt
- Community/Rural Trauma Centers
  - Uninsured payments only

POTENTIAL NEW FUNDING SOURCES

- Provider tax on hospitals
- Medicaid matching funds $30M plus
- Auto insurance
- Other Traffic Related Sources
  - Auto Insurance
  - MVA Registration
  - Driver Fines
  - Other

Auto Insurance & Trauma Care

Trauma Center Revenue In Arizona From Auto Insurance

MALPRACTICE LIMITATIONS

- Have non-economic damage cap at $300,000
- Applies to all on call specialists for P1 and P2 patients treated in ED
- Case studies from other states:
  - West Virginia & Nevada
- Political prospects
- Opinion from Atty. General-Authority model shifts liability to a governmental agency; reduction in frivolous cases
- May not need special legislation

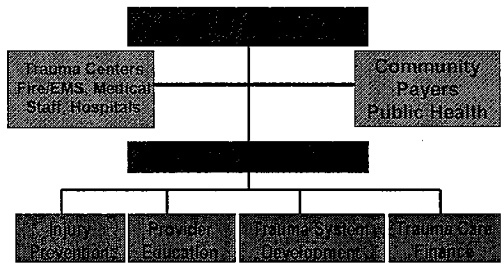
REGIONAL & HOSPITAL TRANSFER CENTERS

- Purpose/benefit Regional Transfer Center
- Purpose/benefit Hospital Transfer Center
- Barriers to use of Regional Transfer Center
- Can the two co-exist?

EMERGENCY/TRAUMA AUTHORITY

- Determine concept, purpose, benefit
- Primary functions
  - Paying Hospitals & Physicians
  - Malpractice opportunities
  - Physician Billing System
  - Other
- Relation To State, RTABs, EMSA
- Deserves further study

STATE TRAUMA FOUNDATION MODEL



TRAUMA CENTER CAPACITY

Oklahoma City
- Continued Role of Backup Hospitals
- Transition To Level II Trauma Center(s)

Tulsa
- Sufficient Trauma Capacity?
- Alternatives

Other Regions

EXPANSION OF TRAUMA CALL SYSTEM TO BROADER ED CALL

- Benefits of doing so
- Challenges of doing so
- Perverse incentives re: patient care
- Is trauma close to being handled?
- Timeline for development
- Source(s) of revenue

PROJECT COMPLETION TIMELINE

- **August-Prepare for/conduct Planning Workshop**
- **September-Complete research, develop draft reports**
- **October-Finalize reports, present final recommendations to Stakeholders**

IOM REPORT ON ER CARE

- Recent report published indicates "The nation's emergency care is at its breaking point".
- Not so in Oklahoma!
- A model for the nation.

QUESTIONS & ANSWERS

OKLAHOMA TRAUMA SYSTEM RECOMMENDATIONS
October 4, 2006

Greg Bishop, MBA
President
Bishop+Associates

PROJECT OBJECTIVE

ASSIST OKLAHOMA IN ESTABLISHING AN ECONOMIC FRAMEWORK THAT SUPPORTS A STABLE AND EFFECTIVE TRAUMA SYSTEM FOR DECADES

ESTABLISH A NEW PUBLIC GOOD SIMILAR TO POLICE AND FIRE SERVICES

PROJECT WORK PLAN

CONDUCT ECONOMIC ANALYSIS OF TRAUMA CARE

EXPLORE OPPORTUNITIES FOR TRAUMA SYSTEM

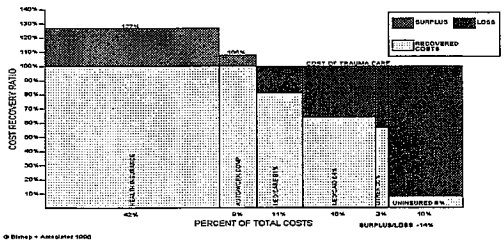
- Assess Best Practices Re: Physician Support
- Assess Opportunities For Federal Matching Funds
- Identify Best Practices Re: Liability Limitations
- Explore New Funding Streams For Trauma Care
- Assess Other Opportunities Identified In Project

PROJECT WORK PLAN

DEVELOP TRAUMA SYSTEM RECOMMENDATIONS

- Trauma Physician Payment Model
- Trauma Hospital Payment Model
- Facility Pay or Play System Model
- Physician Community Call System Model
- Centralized Funding Entity
- Transfer Management System
- Develop Concept For Expansion Of Trauma System To Broader ED Call
- Organizational Structure

National Trauma Center Reimbursement Profile 2002



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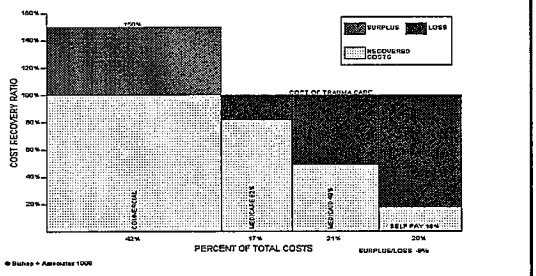
*** Does not include non-physician hospital stand-by costs.

Oklahoma Trauma Center Reimbursement Profile 2005



OKLAHOMA UNINSURED TRAUMA ACUTE PATIENT CARE COSTS

- Trauma Center Uninsured Care $19.8 million
- Physician Uninsured Care $ 8.4 million
- **Total Uninsured Trauma Pt. Care Costs $28.2 million**
- Less Cost of ISS<9 Patients (16%) $ 4.5 million
- **Total Cost of Uninsured ISS>8 Patients $23.7 million**

- **Anticipated Funds Available in 2007 is $20-24 million**

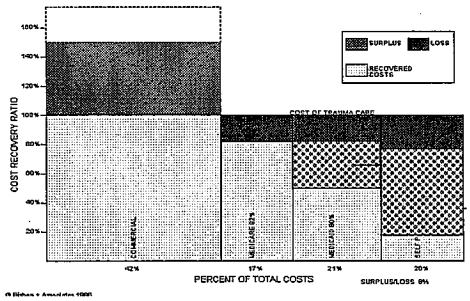
Above totals do not include EMS costs

2006 MEDICAID FUNDING

In 2006, Oklahoma Expanded Medicaid Payments To Medicare Levels, The Highest Permitted By Federal Regulations, For Both Hospitals And Physicians

This Is Projected To Add $8.4 Million To Payments For Trauma Care Provided By Hospitals And $2.9 Million To Physicians

Oklahoma Trauma Center Reimbursement Profile 2007 Projected



TRAUMA FUND RECOMMENDATIONS

The Trauma Fund, Coupled with Maximizing Medicaid Payments, Has Economically Stabilized The Oklahoma Trauma System

Additional Funds Should Be Pursued For Expansion To Other Emergency Services

Another Objective Should Be To Build A Public Good That Can Sustain This Funding

TRAUMA FUND PHYSICIAN PAYMENTS Experience

- 30% of fund; unused $ goes to Hospitals/EMS
- Annualized payments from 12/05 distribution
  - $1,541,940 (10% of total)
  - Unused physician allocation $2,852,000
- Payments from 6/06 distribution
  - $1.1 million
  - Unused physician allocation $3.8 million

TRAUMA FUND PHYSICIAN PAYMENTS Findings

- Payment Strategy Is Not Working
  - Poor Physician Participation (e.g., Maryland)
  - Not Reaching Trauma Physicians In Rural Areas
  - Payments Not Targetable To Critical Needs
  - Fund May Actually Build Resentment
  - Approach Removed From Hospital/RTAB
  - Major Demands On DOH Trauma Division

TRAUMA FUND PHYSICIAN PAYMENTS Recommendations

- Distribute To RTABS Based Upon Proportion Of Trauma Care Provided
- Provide RTABS Flexibility To Meet Unique Regional Needs
- Use To Support Community Call Systems
- Alternative: Distribute Through Medicaid
- Alternative: Give To Trauma Hospitals

TRAUMA FUND HOSPITAL PAYMENTS Experience

70% of fund plus unused physician allocation

- Annualized payments from 12/05 distribution
  - Including unused physician allocation $2,852,000
  - Hospital $12,401,796 (85% of total)
- Payments from 6/06 distribution
  - Including unused physician allocation $3.8 million
  - Hospital $13.5 million (85% of total)

TRAUMA FUND HOSPITAL PAYMENTS Findings

- Payment Strategy Is Generally Working
  - Good Trauma Hospital Participation
  - Provides Economic Stability For Trauma Hospitals
  - Payments Follow Trauma Patient
  - Provides Hospital Ability To Support Physicians
  - Demands On DOH Trauma Division
  - Poor Oversight Capability

TRAUMA FUND HOSPITAL PAYMENTS Recommendations

- Consider Distribution Through Medicaid System
  - Efficient Distribution System
  - High Oversight Capability
  - Hospitals Experienced With System
  - Requires ID of Eligible Trauma Patients
  - Align Payment With Medicaid
- Alternative: Give Funds To RTABs
  - Base On Proportion Of Uninsured Care
  - Provide Flexibility To Meet Unique Regional Needs

TRAUMA FUND EMS PAYMENTS Experience

5% of 70% of fund plus unused physician funds

- Annualized payments from 12/05 distribution
  - EMS $702,834 (5% of total)
- Annualized payments from 6/06 distribution
  - EMS $941,000 (5% of total)

TRAUMA FUND EMS PAYMENTS Findings & Recommendations

- Payment System Is Generally Working
- Consider Distribution Through Medicaid System
  - Efficient Distribution System
  - High Oversight Capability
  - EMS Experienced With System

MEDICAID MATCHING FUNDS Findings

- Potential for 3:1 match ($20M >>>$60M)
- Explored With Texas/OK Experts
- OK Now Maximizes Medicaid Payments
- Expanding Health Insurance Plans
- Trauma Patient is Not Eligible For Medicaid
- Trauma Funds Could Not Fund Trauma If Placed In Medicaid Program

MEDICAID MATCHING FUNDS Recommendations

- Consider Medicaid An Additional Source of Funding For Trauma Care
- Measure Impact of New Medicaid Funding
  - Payment Amount Of Costs On Trauma Patients
  - Proportion of Trauma Patients Covered
- Advocate For Medicaid Health Plan Expansion
- Support Maintenance of New Medicaid Funding

POTENTIAL NEW FUNDING SOURCES Findings

- There Are Variety Of Potential Funding Sources For ED/Trauma Care Fund
- Provider Tax on Hospitals
  - Propose As Part Of Larger Package
  - Demonstrates Hospitals Doing Share
- Other Traffic Related Sources
  - Auto Insurance Assessment
  - MVA Registration
  - Driver Fines
  - Other
- Political Prospects Are Poor

POTENTIAL NEW FUNDING SOURCES Findings

- There Are Also Potential Direct Funding Sources
- Sustain Medicaid Funding
- Pursue Auto Insurance PIP Enhancements
  - Strategies To Assure Tort Payment For Care
- Enhanced Payment From Managed Care
  - Hospital
  - Physician

POTENTIAL NEW FUNDING SOURCES Recommendations

- Develop Political Support New Funding
  - Conduct Public Education
  - Build Statewide Network
  - Broaden Appeal To Stroke And Heart Cases
- Pursue Potential Direct Funding Sources
  - Legislation
  - Provider Education
  - Offer Billing Mechanism

PHYSICIAN BILLING SYSTEM Recommendations

- Consolidated Trauma Physician Billing Programs
  - Optimizes billing and coding practices
  - Obtain higher reimbursement rates for trauma care
- Emergency Associates Model
  - Hospital Based – EMR System
  - Only Widespread System
  - Billing & Payment On Insured
- Alternative – Build Your Own
  - Offer Through RTAB Structure
  - Central Billing System

MALPRACTICE LIMITATIONS Findings

- Non-economic Damage Cap Of $300,000
- Applies To All On Call Specialists For Patients Treated In ED
- ED/Trauma Problem Is Largely One Of Perception
- Case Studies From Other States Offer Limited Enhancements: West Virginia & Nevada
- OK Can Seek Further Immunity Protection
- Political Prospects Poor At This Time

MALPRACTICE LIMITATIONS Recommendations

- Inform/Educate ED/Trauma Physicians On Current Malpractice Protections
- Track Malpractice Experience On ED/Trauma Cases
  - Address Perception Issue
- Seek Further Immunity Protections In Law
  - Base On Strong Trauma QA Infrastructure
  - Study Means Of Compensating Patients
- Develop Public Good To Develop Support

TRAUMA PHYSICIAN PAYMENT NORMS

- Regional Trauma Centers
  - Payment Amount Depends Upon Volume, Role, Payment On Uninsured, Etc.
- Backup Trauma Centers
  - Key Specialties-small Stipend Per Day + Uninsured Pmt
- Community/Rural Trauma Centers
  - Uninsured Payments Only

TRAUMA PHYSICIAN PAYMENT Recommendations

- Tiered compensation that ties payment to each specialty based upon their relative burden for Trauma call.
- Approach developed from collaborative processes among hospitals and their medical staffs
- Requires the determination of key factors such as:
  - Number of physicians in specialty taking call
  - Times physician is called to the ED when on call
  - Intensity of the service required in ED or once admitted
  - Other factors

TRAUMA PHYSICIAN PAYMENT Recommendations

- Tier 1: **Low** Trauma call intensity per physician
  Payment on uninsured patients
- Tier 2: **Moderate** Trauma call intensity per physician
  Small call payment" + payment on uninsured patients
- Tier 3: **High** Trauma call intensity per physician
  Moderate call payment + payment on uninsured patients
  May require unique structural solution such as employment, contract with hospitalist, recruitment, etc.

TRAUMA PHYSICIAN COMMUNITY CALL Findings

- Each Region Has Unique Needs
- Encourage/Incentivise Physician Participation
  - Cannot Require
- New Payments Will Generally Work
  - Economic Incentives Take Time
- Specialty/Regional Alternatives Necessary
  - Joint contract between trauma hospitals for key specialty
  - Different compensation models (call stipends, fee-for-service)
  - Joint recruiting/hiring of surgical specialists to address shortages
  - Premium payment rate for high-demand, low supply specialty
  - Contract with Emergency Associates or Medicaid for distribution

TRAUMA PHYSICIAN COMMUNITY CALL Recommendations

- Task/Equip RTABS With Community Call Responsibility
- Enable Community Contracting Through RTAB
  - Hand Call In OKC
- Encourage Physician Participation
  - Educate Re: Payments & Malpractice
  - Highlight Role With Public Education

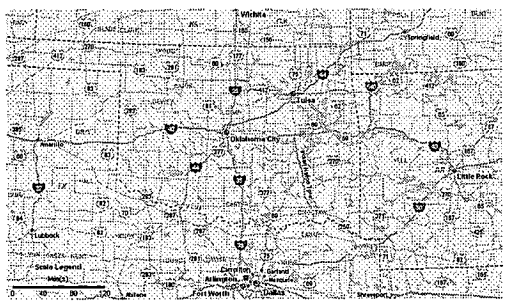
TRAUMA REFERRAL CENTERS Findings & Recommendation

- Role Is Being Refined & Will Work
  - Education & Buy In Takes Time
  - Relationship With Hospital Transfer Centers
  - 90% Of I,II, III+ Said Appropriate Patients Transferred
  - 94% Of III, Ivs Said There's A Clear And Effective Transfer Process
  - 100% Said Cannot Accommodate All Requests For Transfers
- Maintain/Build Transfer Centers

TRAUMA CENTER CAPACITY Findings & Recommendations

- Lack of Capacity The Major Problem
- Oklahoma City
  - Continue Role of Backup Hospitals
  - Transition To Level II Trauma Center(s)
- Tulsa
  - Sustain Economic Support
  - Pursue Rural TC Development
- Lawton Region
  - Organize Under RTAB Structure

Map of Service Area



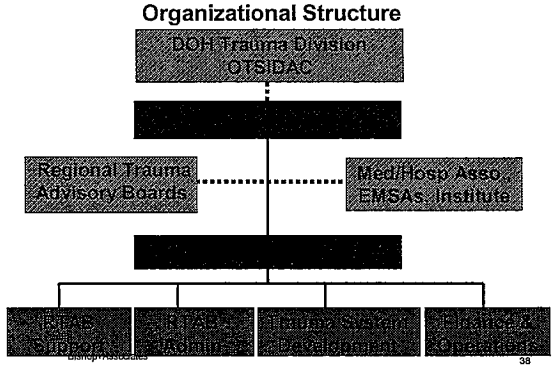
EMERGENCY/TRAUMA ORGANIZATION Recommendations

- Structure Should Coordinate Current Components
  - Trauma Physicians & Trauma Hospitals
  - OTSIDAC
  - Regional Trauma Advisory Boards
  - Tulsa & OKC EMSA's
  - Trauma Referral Centers
  - DOH Trauma Division
  - Medical & Hospital Associations
  - Institute For Disaster & Emergency Medicine

EMERGENCY/TRAUMA ORGANIZATION Recommendations

- **Structure Should Build RTAB Network**
  - Invest Funding In Statewide/Regional Network
  - Framework For Public Good
- **Major Functions**
  - Provide Non Profit Structure with Program Board Option
  - Regional Planning
  - Community Call
  - Paying Physicians
  - Physician Billing System
  - Expansion To ED Call
  - Disaster
  - Other
- **Keep It Simple, Lean, Mean & Operational**

EMERGENCY/TRAUMA ORGANIZATION Organizational Structure



EXPAND SCOPE TO ED CALL Recommendation

- **Benefits**
  - Addresses Larger, Underlying Problem
  - Substantially Broadens Support
  - Potential For Strong Public Good
- **Use Incremental Approach**
  - Start With Stroke & Hearts
  - Ist Step: Study Groups

BUILDING A PUBLIC GOOD

- **Think Big & Permanent**
  - Emulate Police & Fire
  - Not Just A New Funding Source
  - Requires Structure, Leadership & Buy In
- **Build A Political Support Network**
  - Requires Statewide Network
  - Requires Public Education
- **Build A Legacy**

QUESTIONS & ANSWERS