

**HOUSE OF REPRESENTATIVES STAFF ANALYSIS**

**BILL #:** HB 715 Trauma Services

**SPONSOR(S):** Grimsley

**TIED BILLS:** **IDEN./SIM. BILLS:**

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REFERENCE	ACTION	ANALYST	STAFF DIRECTOR
1) Health Care Regulation Committee	_____	Bell	Mitchell
2) Health Care Appropriations Committee	_____	_____	_____
3) Health & Families Council	_____	_____	_____
4) _____	_____	_____	_____
5) _____	_____	_____	_____

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**SUMMARY ANALYSIS**

In the 2005 session the Legislature passed HB 715 and HB 1697, which provided additional funding to trauma centers through traffic infraction fines and court assessments. Revenues generated through these additional funds are appropriated into the Department of Health Administrative (DOH) Trust Fund, from which up to \$7.5 million is earmarked to provide funding for trauma centers on the basis of caseload and the severity of trauma patients. Currently, \$1 million dollars has been raised by the increased fee.

HB 715 addresses the allocation and distribution of trauma center funds. The bill changes a number of provisions related to the distribution and determination of trauma payments to current verified trauma centers. The changes include:

- Requires an annual audit of trauma registry data;
- Changes the way trauma centers determine the severity of patients (by requiring trauma centers to evaluate patients with the International Classification Injury Severity Score (ICISS) instead of the Injury Severity Score (ISS); and
- Provides definitions for ICISS, trauma caseload volume, and trauma patient.

The Department of Health (DOH) estimates that the fiscal impact of the oversight provisions of the bill is \$844,327 in the first year and \$877,361 in the second year.

The effective date of the bill is July 1, 2006.

## FULL ANALYSIS

### I. SUBSTANTIVE ANALYSIS

#### A. HOUSE PRINCIPLES ANALYSIS:

**Promote Limited Government** – The bill provides new definitions, changes the way verified trauma centers determine the severity of trauma patients that may alter the distribution of trauma center funds, and requires a yearly independent audit of the trauma registry data. The Department of Health estimates that the fiscal impact of the bill auditing requirements is \$844,327 in the first year and \$877,361 in the second year.

#### B. EFFECT OF PROPOSED CHANGES:

##### **Present Situation**

In the 2005 session the Legislature passed HB 715 and HB 1697, both of which provide additional funding to trauma centers through traffic infraction fines and court assessments. HB 715 increased the civil penalties for drivers who failed to obey red traffic signals from \$60 to \$125. HB 1697 allocated funds from mandatory civil penalties to this same DOH Administrative Trust Fund, to provide financial support to trauma centers throughout the state.

Revenues generated through these additional funds are appropriated into the Department of Health Administrative (DOH) Trust Fund, from which up to \$7.5 million is earmarked to provide funding for trauma centers on the basis of caseload and the severity of trauma patients. Currently, \$1 million dollars has been raised by the increased fee.

Trauma center funding is weighted based on the severity of trauma patients (40%), the trauma caseload volume (40%), and availability of local funding contributions (20%). The severity of trauma patients is determined by the ISS score and the caseload volume is determined by DOH's Trauma Registry Data.

The severity of trauma patients and caseload volume is collected and entered into the Department of Health Trauma Registry. The classification currently used to rate severity of trauma is the Injury Severity Score (ISS).

Trauma Registry data is currently verified by DOH staff during the yearly trauma center site survey. The DOH survey takes a very small sample of Trauma Registry records to evaluate trauma staffing and procedures. This survey does not focus on the validity of the Trauma Registry ISS.

Currently, funds collected for distribution to trauma centers are based on the calendar year and not the state fiscal year.

##### **Effects of the Bill**

HB 715 amends ss. 395.404 & 395.4035, F.S., to address the allocation of trauma center funds. It changes a number of provisions related to the determination and distribution of trauma payments to current verified trauma centers.

The bill requires an independent entity to annually audit the Trauma Registry data and to submit the audit report to the Department of Health (DOH).

The bill changes the standard by which trauma centers report injuries to DOH. Currently the severity of trauma patients is determined and coded with Injury Severity Scores (ISS), which only considers a maximum of three patient injuries. The bill requires trauma severity to be determined by the International Classification Injury Severity Scores (ICISS), the current standard, and other statistically

valid and scientifically accepted methods of stratifying a trauma patient's severity of injury, risk of mortality, and resource consumption as adopted by DOH by rule. The impact of the change in injury determination methodology may change payment calculations for determining the amount of funding allotted to each trauma center.

The bill provides that DOH's Administrative Trust Fund may be used to maximize federal funds available to trauma centers. The total funds distributed to trauma centers may include revenue from DOH's Administrative Trust Fund and federal funds for which revenue from DOH's Administrative Trust Fund is used to meet state or local matching requirements, including Medicaid.

The bill changes the period for distribution of funds from calendar year to state fiscal year.

The bill repeals s. 395.4035, F.S., the Trauma Trust Fund. This has no impact on trauma centers because the Trauma Trust Fund has never been used by DOH. Funds collected for distribution to trauma centers have been deposited into either the Emergency Medical Services Trust Fund or the DOH Administrative Trust Fund.

The bill amends s. 395.4001, F.S., to provide definitions for the International Classification Injury Severity Score (ICISS), trauma caseload volume, and trauma patient. These are new statutory definitions.

The effective date of the bill is July 1, 2006.

## BACKGROUND

Chapter 395, F.S., defines a trauma center as a facility within a general medical hospital determined by the Department of Health to be in compliance with trauma center verification standards. These centers treat individuals who have incurred blunt or penetrating injuries or burns, and who require immediate medical intervention and treatment. Trauma center patients require urgent, lifesaving care. Trauma centers must be ready at all times and have designated suites reserved to treat patients at all times. Emergency rooms are not trauma centers. A trauma center has dozens of specialists, many of whom are available 24-hours-a-day, seven days a week. Trauma centers have access to air emergency whose job is to be available for the moment a serious accident occurs.

The effectiveness of a trauma center lies in the speed and quality of treatment. Getting a patient definitive care within the first hour, or golden hour, of injury drastically increases their chances of survival. Trauma mortality is reduced by 15-20% when a very seriously injured patient is treated at a trauma center versus a non-trauma center.

Florida's trauma system has been under development since the passage of landmark trauma legislation in the late 1980's. Key components of this system include trauma centers, trauma agencies, trauma service areas, and trauma regions, as well as trauma transport protocols and trauma triage criteria for emergency medical service providers.

### **Florida Trauma Registry**

The Florida Trauma Registry (FTR) collects patient-level data from the state's twenty-one trauma centers. As a state designated facility, a trauma center must maintain a comprehensive database of those injured patients treated within the hospital. The trauma registry supports the trauma centers required activities, including performance improvement, outcomes research, and resource utilization as well as providing the state public health system with the necessary data for state-wide planning and injury prevention initiatives.

## Comparing the ISS and the ICISS

Characterization of injury severity is crucial to the study and treatment of trauma. The measurement of injury severity began just over 50 years ago with the Abbreviated Injury Scale (AIS), a method developed to grade the severity of individual injuries. The AIS has been modified many times, most recently in 1990, and is the basis for the Injury Severity Score (ISS). The Injury Severity Score (ISS) was for many decades the standard summary measure of human trauma. However, it has two weaknesses. First, the ISS considers a maximum of only three of an individual patient's injuries which may not even be the patient's most severe injuries. Second, the ISS requires that all patients have their injuries described using an expensive assessment method unavailable at most hospitals, especially those that do not specialize in trauma.<sup>1</sup>

A more recent approach to injury scoring is based on the *International Classification of Disease, Ninth Edition (ICD-9)* codes and is referred to as the *ICD-9 Injury Severity Score (ICISS)*. The ICISS is a data-driven alternative to ISS that uses empirically-derived injury severity measures, and considers all of an individual patient's injuries rather than just a few. The use of the standard ICD-9 classification scheme adds to the statistical appeal of the ICISS and avoids the need for costly AIS coding.<sup>2</sup>

In terms of methodology, the ICISS uses survival risk ratios (SRRs) calculated for each *ICD-9* discharge diagnosis. SRRs are derived by dividing the number of survivors in each *ICD-9* code by the total number of patients with the same *ICD-9* code. ICISS is calculated as the simple product of the SRRs for each of the patient's injuries.<sup>3</sup> For example, if a population of 1,000 patients with femoral fractures included 100 patients who died, then the single SRR for that particular diagnoses would be .9 or  $[1-(100/1000)]$ . A patient with two injuries, one having a SRR of .9 and the other having a SRR of .5, would have a total probability of survival of .9 multiplied by .5, yielding an overall probability of survival of .45.<sup>4</sup>

ICISS has demonstrated a greater reliability than ISS, and offers many advantages for predicting the severity of an illness and injury. The ICISS values may also be used as predictors of resource utilization, and may be used as an assessment tool in quality improvement efforts. Research has shown benefits of the ICISS over other scoring systems include:<sup>5</sup>

1. It represents a true continuous variable that takes on values between 0 and 1.
2. It includes all injuries.
3. *ICD-9* codes are readily available and do not require special training or expertise to determine.
4. *ICD-9* has better predictive power when compared to the ISS.
5. ICISS has the potential to better account for the effects of comorbidity on outcome by including the SRR for each comorbidity present.
6. The ICISS outperforms the ISS in predicting other outcomes of interest (e.g., hospital length of stay, hospital charges).
7. Compared to all over available severity adjustment systems, ICISS was most accurate.
8. ICISS can be more precisely population-based.
9. ICISS requires no additional software manipulation of data. ICDMAP-90 software for risk stratification converts International Classification of Disease (ICD) discharge diagnoses to injury severity scores to allow standardized outcome comparison.

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<sup>1</sup> Osler, T., Rutledge, R., et al. **ICISS: An International Classification of Disease-9 Based Injury Severity Score.** *Journal of Trauma-Injury Infection & Critical Care.* 41(3):380-388, September 1996. Available online at <http://www.jtrauma.com/>.

<sup>2</sup> Sposato, E.M. "The End of the Injury Severity Score (ISS) and the Trauma and Injury Severity Score (TRISS): ICISS, an International Classification of Diseases, Ninth Revision-Based Prediction Tool, Outperforms Both ISS and TRISS as Predictors of Trauma Patient Survival, Hospital Charges, and Hospital Length of Stay." *Journal of Trauma Nursing.* Jan-March, 1999. Available online at <http://www.allbusiness.com/periodicals/article/350114-1.html>

<sup>3</sup> Offner, P. Trauma Scoring Systems. *EMedicine.* 4/25/02. <http://www.emedicine.com/med/topic3214.htm>

<sup>4</sup> <https://jobs.orhs.org/trauma/report-feb-05.pdf>

<sup>5</sup> <http://www.emedicine.com/med/topic3214.htm> and <https://jobs.orhs.org/trauma/report-feb-05.pdf>

C. SECTION DIRECTORY:

**Section 1.** – Amends s. 395.4001, F.S., to provide definitions.

**Section 2.** – Repeals s. 395.4035, F.S.

**Section 3.** – Amends s. 395.4036, F.S., to require that funds distributed to trauma centers be based on audited Trauma Registry caseload volume for the previous calendar year.

**Section 4.** – Amends s. 395.404, F.S., to require an independent entity to audit the Trauma Registry data.

**Section 5.** – Provides the bill will take effect July 1, 2006.

**II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT**

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

None.

2. Expenditures:

**Department of Health Estimated Expenditures** (Annualized/Recurr.)

**Salaries**

*1 Operations & Management*

*Consultant II @ \$35,668*

\$34,241

\$45,655

*1 Computer System Analyst @*

\$28,820

\$38,426

*\$30,021*

*(FTE computed w/28% fringe and  
25% lapse)*

**Expense**

*2 FTE @ std DOH professional  
Pkg. w/limited travel @ \$13,733*

\$27,466

\$20,780

*Independent Entity Contract for*

\$750,000

\$772,500

*Audit of Trauma Registry Data*

(estimated)

(5% estimated  
inflation)

**Operating Capital Outlay**

*2 FTE @ Std DOH professional pkg.*

\$3,800

\$

**Total Estimated Expenditures**

**\$844,327**

**\$877,361**

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

None.

2. Expenditures:

None.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

The bill alters the way trauma centers determine the severity of trauma patients. Forty percent of trauma center funding is distributed by the ISS coded severity of trauma patients. Thus, the bill has the potential to increase or decrease trauma center payments depending on the results of the severity ranking system. Additionally, 40% of trauma center funding is distributed based on trauma caseload Trauma Registry data. The bill requires the Trauma Registry data to be audited yearly. If the audit finds inaccurate data it may increase or decrease trauma center payments.

D. FISCAL COMMENTS:

**Department of Health Fiscal Estimates**

According to the Department of Health (DOH), there will be a fiscal impact to contract with an independent entity to provide contract management and conduct an annual audit of Trauma Registry data at each of the 21 trauma centers. It would cost at least \$750,000 annually to contract with an independent entity to conduct a yearly onsite audit at each of the 21 trauma centers. This cost is based on the review of approximately 5,000 (10% of the estimated total trauma registry volume reported to the DOH Trauma Registry) trauma medical records. The average cost to conduct an audit is \$100 an hour per medical record. A medical record coder can code/audit one medical record per hour at a total cost of \$500,000. An additional \$250,000 would be needed to cover an independent entity's personnel travel, expenses and for preparing and submitting reports for each trauma center to DOH.

According to DOH, an Operations and Management Consultant II would be needed to handle the request to negotiate the contract, ongoing contract management, and management of the independent entity. This position would also be responsible for collecting cost data and resource consumption data from each of the 21 trauma centers. A Computer System Analyst would be needed to develop and maintain the computerized algorithms for calculating the survival risk ratios (SRR) for each reported ICD-9 diagnosis code and subsequent determination of the ICD-9 Injury Severity Score (ICISS), resource utilization and cost ratios.

**III. COMMENTS**

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

This bill does not require counties or municipalities to spend funds or take action requiring the expenditure of funds. This bill does not reduce the percentage of state tax shared with counties or municipalities. This bill does not reduce the authority that municipalities have to raise revenue.

2. Other:

None.

B. RULE-MAKING AUTHORITY:

The Department of Health has sufficient rule making authority to implement the provisions in the bill.

C. DRAFTING ISSUES OR OTHER COMMENTS:

#### IV. AMENDMENTS/COMMITTEE SUBSTITUTE & COMBINED BILL CHANGES