

Relative value units and payer mix analysis of facial trauma coverage at a level 1 trauma center: Is the current model sustainable?

Mohamed F. Osman, MD,^{a,b} Reginald F. Baugh, MD,^b Aaron D. Baugh, MD,^b Marlene C. Welch, MD, PhD,^b Joseph J. Sferra, MD, FACS,^c and Mallory Williams, MD, MPH,^b Boston, MA, and Toledo, OH

Purpose. We aimed to approximate the annual clinical work that is performed during facial trauma coverage and analyze the economic incentives for subspecialty surgeons providing the coverage.

Methods. A retrospective, clinical productivity data analysis of 6 consecutive years of facial trauma coverage at an American College of Surgeons–verified Level I trauma center was performed by the use of a trauma database and relative value unit (RVU) data. A payer mix analysis also was completed. SPSS V19 was used for analysis.

Results. Between 2006 and 2011, 526 patients were treated for facial injuries. The annual nonoperative RVUs ranged from 371 to 539, whereas the annual operative RVUs range was 235–426. Trend analysis displayed that most of the annual RVUs were nonoperative until the year 2011, when the operative RVUs surpassed the nonoperative. Payer mix analysis revealed that commercial insurance coverage was the most common (range 21–54%, median 41%) followed by self-pay coverage (18–32%, median 29%). This finding was a consistent phenomenon except in the year 2009, when self-pay covered the majority of the RVUs (32%). Nasal bone fractures (24%) and mandibular fractures (16%) were the two most common diagnoses. Open reduction and internal fixation of mandibular fractures (17%), open reduction and internal fixation orbital bone fractures (15%), and complex facial repair (12%) constituted the most common operative procedures. Facial trauma consultations were obtained 22% (16–24%) of covered days. The percent of days requiring emergency procedures was (0.5–1%).

Conclusion. The infrequency of subspecialty consultations and operative interventions, and significant payer mix differences between facial trauma patients relative to the current ambulatory surgery population of the covering subspecialties poses economical challenges for both the hospitals and providers that use the traditional coverage models. (Surgery 2014;156:995-1002.)

From the Brigham and Women's Hospital, Harvard Medical School,^a Boston, MA; University of Toledo College of Medicine,^b and ProMedica Health System/The ProMedica Toledo Hospital,^c Toledo, OH

AMERICAN COLLEGE OF SURGEONS (ACS)-verified trauma centers improved clinical outcomes in injured patients.¹⁻³ At least one in each five patients cared for in ACS-verified trauma centers will have facial trauma. An essential component of trauma

care at Level I centers is subspecialty operative coverage for facial trauma.⁴ Call coverage for facial trauma usually is shared by several subspecialties, including oral and maxillofacial surgeons, otolaryngologists, and plastic surgeons. In the United States, recent observed trends have identified a decrease in emergency department (ED) coverage for facial trauma.^{5,6} The demanding and irregular hours, poor compensation/reimbursement by third-party payers, competing clinical activities, and the lack of insurance coverage by a large percentage of the trauma population are major deterrents for many subspecialty surgeons to dedicate their time toward this discipline.^{5,6} As physician reimbursement models continue to change and payment for subspecialty call coverage remains highly variable,⁷ a thorough analysis of both the work performed by

The study was supported by the Department of Surgery at the University of Toledo College of Medicine.

Presented at the Central Surgical Association 2014 Annual Meeting in Indianapolis, IN, March 8, 2014.

Accepted for publication June 23, 2014.

Reprint requests: Mohamed F. Osman, MD, Brigham and Women's Hospital, 75 Francis Street, Boston, MA 02115. E-mail: Mohamed.Osman@UToledo.edu.

0039-6060/\$ - see front matter

© 2014 Elsevier Inc. All rights reserved.

<http://dx.doi.org/10.1016/j.surg.2014.06.046>

these subspecialty surgeons and the economics of the call coverage (both for the hospital and the surgeon) is required to determine the long-term feasibility of providing this call coverage using the traditional subspecialty models. Furthermore, a weak economic incentive model for maxillofacial subspecialty coverage threatens both trauma center viability and expansion. Specifically within the current ACS Committee on Trauma definition of Level I trauma care, trauma center structure, operations, and capability are threatened. Therefore, in this study, we performed a relative value unit (RVU) analysis of facial trauma coverage at an ACS-verified Level I trauma center. Our goals were to evaluate the annual in-hospital clinical work that is performed during facial trauma coverage and quantify the economic incentives for subspecialty surgeons providing the coverage.

METHODS

A retrospective RVU analysis of 6 consecutive years of maxillofacial trauma coverage at the University of Toledo Medical Center (UTMC), an ACS-verified, Level I trauma center, was performed by the use of a trauma database and calculated RVUs. The trauma database includes all trauma patients admitted to UTMC and is quality assured for accuracy with daily admission logs from the hospital ED and all inpatient services. All maxillofacial trauma subspecialty coverage services' patients are admitted to the trauma service, and admissions for outpatient surgery are listed on daily inpatient admission logs that are screened by the trauma program manager.

During the period of January 1, 2006, to December 31, 2011, a total of 526 patients with facial injuries were entered into the UTMC trauma database. The following patient data were collected: mechanism of injury, type of injury (location and concomitant injuries), length of stay, *International Classification of Diseases*, Tenth Revision, codes, operative procedure and their Current Procedural Terminology codes, and payer source. Trauma care process data also were extracted, including subspecialty coverage of specific injuries, number of consultation days, type of consultation (routine vs emergent), time of consultation performance, and days with operative procedure.

Using the January 2013 Revision file, we used the resource-based relative value scale (RBRVS) to translate each scheduled Current Procedural Terminology code into RVUs.⁸ A descriptive analysis of the data was performed. SPSS V19 (SPSS Institute, Chicago, IL) was used for analysis. Because of the lack of recent published data on the

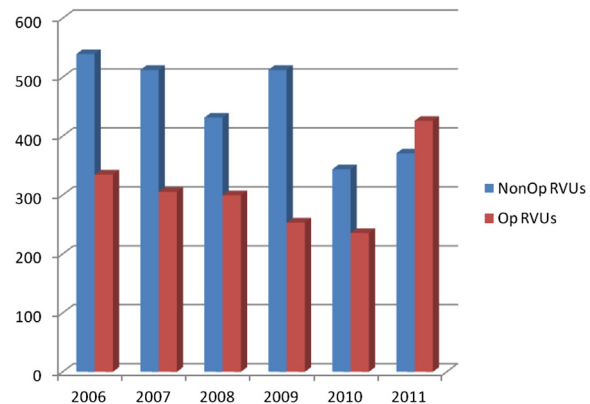


Fig 1. Operative versus nonoperative relative value units (RVUs).

numbers and incidences of facial trauma cases among ACS-verified trauma centers, these values were extracted from the National Trauma Data Bank for the years 2008–2013.

RESULTS

The total number of facial trauma patients was 526, with a hospital-based incidence rate of 7%. The maxillofacial trauma coverage in our institution was provided by maxillofacial surgeons 50%, plastic surgeons 25%, and otolaryngologists 25%.

From 2006 to 2011, the total RVUs were 4564, ranging annually between 579 and 874 with an average of 760 RVUs per year (2 RVUs/day). The annual operative RVUs range was 235–426 with an average of 309. The annual nonoperative RVUs ranged from 371 to 539 with an average of 452 (Fig 1). Trend analysis displayed that most of the annual RVUs were nonoperative until the year 2011, when the operative RVUs (426) surpassed the nonoperative counterpart (370), Table I.

Payers' data analysis revealed that the commercial insurance coverage (range 21–54%, median 41%) was the most common, followed by self-pay coverage (18–32%, median 29%; Fig 2). This finding was a consistent phenomenon except in the year 2009 when self-pay covered the majority of the RVUs. Medicare coverage was (7–27%, median 17%), whereas Medicaid coverage was (8–19%, median 17%), Table I and Table II.

Open reduction and internal fixation of mandibular fractures (17%), open reduction and internal fixation orbital bone fractures (15%), and complex facial repair (12%) constituted the most common operative procedures for maxillofacial trauma patients. Nasal bone fractures (24%), mandibular fractures (16%), and facial lacerations (14%) represented the most common diagnoses in our patient population (Table III).

Download English Version:

<https://daneshyari.com/en/article/4307661>

Download Persian Version:

<https://daneshyari.com/article/4307661>

[Daneshyari.com](https://daneshyari.com)