Introduction

Trauma Care as a specialty of General Surgery is under continual economic pressure that affects both the facility (hospital) reimbursement, but also provider reimbursement. In the current healthcare environment, trauma and surgery departments, like all areas, are under increasing pressure to maximize financial performance.

Surgery typically derives much of its revenue from procedural rather than evaluation and management (E&M) services. Trauma care in many centers has an increasing percentage of non-operative management of patients, thus an increase in E&M level of care. Reliance on reimbursement and revenue from this work further drives the imbalance in provider based revenue, yet the overall coverage model, quality of care, outcomes, and work remains at a high level for providers who practice trauma surgery. Trauma patients requiring E&M services by a trauma surgeon often have high acuity and complex multidisciplinary needs to coordinate. A focus on improved coding and billing of E&M services may be able to improve professional services revenue in the area of trauma care.

It is imperative for providers to work closely with coding and billing services as well as administration to understand proper practices to capture revenue based on the care provided to the patient. This can be accomplished through adequate and standardized documentation as well as understanding and keeping apprised of changes related to rules and regulations around procedural coding, E&M coding, and the global surgical package.

Professional Services Concepts & Definitions:

- **Diagnosis Related Group (DRG)**: a system of sorting patients by discharge diagnosis into medically similar categories with approximately similar lengths of stay. Appropriate provider documentation assists with DRG assignment and hospital reimbursement.

- **American Medical Association’s Current Procedural Terminology (CPT)**: describes provider medical procedures and services under public and private health insurance programs.

- **ICD-10**: the 10th revision of the International Statistical Classification of Diseases and Related Health Problems which is a medical classification list by the World Health Organization.

- **ICD-10-CM**: International Classification of Diseases, 10th edition, Clinical Modification. Developed by The National Center for Health Statistics (NCHS) as a clinical modification of the classification for morbidity purposes. The clinical modification includes: the addition of information relevant to ambulatory and managed care encounters; expanded injury codes; the creation of combination diagnosis/symptom codes to reduce the number of codes needed to fully describe a condition; the addition of sixth and seventh characters; incorporation of common 4th and 5th digit subclassifications; laterality; and increased specificity in code assignment.

- **National Correct Coding Initiative (NCCI) Edits**: developed by CMS to prevent payments from being made due to inappropriate code assignment, eliminate unbundling of services, detail incorrect or inappropriate reporting of code combinations, and curtail improper coding practices.

- **Medically Unlikely Edits (MUE)**: developed by CMS to reduce error rate in paid claims. An MUE is the maximum units of service that a provider would report under most circumstances for a single date of service.

- **Global Surgical Package**: all-inclusive payment provided to surgeons for their services which is intended to bundle the services for pre-operative, surgical, and post-operative care associated with the surgery.

- **Shared Care**: follow up care provided by physician other than primary surgeon.

- **Concurrent Care**: treatment for a coexisting condition following surgery.
Professional Service Charges: based on the resource based relative value system (RBRVS) and are calculated based on multiplication of relative value units (RVUs) by a dollar per RVU factor which varies by type of service.

Resource Based Relative Value System (RBRVS): designed to equate value of a service to the resources necessary to generate the service.

Relative Value Unit (RVU): captures three components and is used to provide comparison between CPT codes:

- Work Relative Value Unit (wRVU): Medicare/Medicaid tool that reflects time, skill, judgment, mental, and/or physical effort required to perform a service and reflects individual unit of productivity
- Practice expense RVU (PE): addressed cost of maintaining a practice including rent, equipment, supplies, and non-physician staff costs
- Malpractice RVU (MP): represent payment for professional liability
- Geographic Practice Cost Index (GPCI): not a component of the RVU but is calculated for each component to account for geographic differences in cost of practice.

Conversion Factor (CF): converts relative value units into a dollar amount

Facility/Nonfacility: identifies where services are provided. Federal regulations provide for different levels of payments to physicians depending on where the services are performed. Medicare typically pays a physician a higher amount when a service is performed in a non-facility setting, such as a physician’s office, than it does when the service is performed in a facility, including a hospital, hospital outpatient department, or nursing home. When a service is performed in a facility the practice expense portion of the total RVU is lower because the practice does not have the expense for the overhead, staff, equipment, and supplies used to perform the service and the facility is also billing a facility charge.

The “Work” of Surgery

Trauma Surgery as a subset of General Surgery has a high non-operative rate, which has been reported in the range of 70-85% [1-3, 5-6, 8, 13, 16]. Trauma Surgeons, however, spend a high amount of time in the primary assessment and stabilization of patients initially, and then manage the overall care of the injured patient throughout the inpatient stay and into the immediate post-acute stay in many instances. During the acute stay, trauma surgeons also often provide the perioperative acute care for specialty surgeons such as Orthopedics and Neurosurgery. This work has been termed cognitive trauma work by multiple authors [2, 5, 8, 13, 16] and has been suggested to be undervalued by the current compensation system. Sutyak et al [16] compared patients with splenic injury who were treated nonoperatively vs. those with splenectomy and found charges and collections to be significantly lower with nonoperative management although injury severity scores and economic variables were not significantly different.

Trauma Surgeons do provide procedural services to patients as well. This work is compensated under specific procedural CPT codes and related perioperative care often falls into the global surgical package for that procedure.

Finally, trauma surgeons provide surgical critical care to injured patients. Critical Care work is also billed as an E&M level (99291 and 99292), but carries a different set of regulations as compared to initial and subsequent E&M level of service codes.

The Global Surgical Package: Maximizing Professional Billing

Medicare and Medicaid Services (CMS) payment for surgical services are based on a global package. This is split into preoperative, intraoperative, and postoperative components of the procedure. There are varying lengths of time the global packages are in effect, primarily 0 day (“same-day”), 10 day and 90 day. There are many E&M codes which are considered part of the global services unless exceptions exist. One exception is concurrent care which typically includes care provided by a physician who is not the operating surgeon and is
caring for a separate clinical condition. These conditions should include things that are not usually related to the procedure and can be supported in documentation that care is unrelated to the surgery using ICD-10 codes and CPT codes to support this. The CMS Online Manual (previously known as the CMS Carriers Manual) provides the most up to date list of services included in a global fee (see links/resources).

The global surgical package does not include treatment for underlying conditions or additional diagnoses that are not part of the normal operative course. Reed at al [10, 11] reported that global packages do not effectively cover E&M services for trauma patients. Multiple authors have found that appropriate use of modifiers will improve professional payments for trauma care [2, 5-7, 9-12]. Some common modifiers used are listed and explained below. Revisions may occur and it is imperative to review guidelines on a regular basis.

Common Modifiers:

- **22**: Increased procedural services. Indicates that the work to provide the surgery is substantially greater than that usually required. Generally, this requires a 30-40% increase in difficulty that normal level of service. Payment usually does not exceed more than an increase of 20%.

- **24**: unrelated E&M service by the same physician during a postoperative period. This modifier could be used for obtaining payment for providing critical care services unrelated to previous operations performed (i.e., for ventilator management, organ function monitoring and resuscitation, or sepsis management in a patient post-splenectomy).

- **25**: significant and separately identifiable E&M service by a provider on same day of procedure (typically those with 0-day or 10-day global periods) or service. This could be used for critical care services or emergency department evaluation on a patient who had a procedure where the E&M services involved more complexity and body systems than the other procedure or services.

- **51**: multiple procedures. This can be utilized when the same surgeon performs multiple procedures on the same patient on the same day and, usually, through the same incision.

- **57**: decision for surgery: Applied to an E&M service on the same day or day prior as a procedure. This E&M service resulted in the initial decision to perform the surgery.

- **58**: staged or related procedure or service by the same physician during the postoperative period. Procedure was planned at the time of original procedure.

- **59**: distinct procedural service. Similar to modifier -51 but signifies separate body areas or incisions or different times during the day.

- **62**: Two surgeons are required to perform a specific procedure. Example of appropriate use: Two surgeons (same or different specialty) are each performing parts of the same procedure simultaneously, such as heart transplants, or bilateral knee replacements. Both physicians bill the same procedure code appending modifier 62. Should not be used in the following scenarios: one surgeon is acting as an assistant surgeon, situations, usually in trauma situations, where both surgeons are acting simultaneously, but not working on the same procedure, or there are more than two primary surgeons. To support this modifier, medical record documentation should show the services of each surgeon and the medical necessity of two surgeons. Global Surgery rules apply to each of the physicians.

- **78**: return to the operating room for a related procedure during postoperative period.

- **79**: unrelated procedure during the postoperative procedure. This can be used similarly to modifier -24 (which is applied to E&M service CPT codes) for an operation or procedure provided to a patient where an operation has taken place for another traumatic injury earlier.

- **80**: Assistant surgeon.
**-81:** Minimum assistant surgeon.

**-82:** Assistant surgeon (when qualified resident surgeon not available).

**-AS:** Use the modifier "AS" for assistant at surgery services provided by a Physician Assistant (PA), Nurse Practitioner (NP), or Clinical Nurse Specialist (CNS). In a teaching hospital setting, when a non-physician practitioner is acting as an assistant-at-surgery and a qualified resident surgeon is not available, both the 82 and AS modifiers must be on the claim form.

It is also important to remember that Medicare also allows billing and payments for services that fall out of the typical surgical case. These may include: treatment for postoperative complications that require a return to the operating room or a situation where a more extensive procedure is required when a less extensive procedure fails, allowing the second procedure to be billed [9]. Finally, surgeons may be able to bill when another unrelated global procedure is performed during the original procedural global period, adding a new global period specific to that second procedure, in which case, each procedure would have a global period specific to that procedure [9].

**Evaluation and Management: Maximizing Professional Billing**

With the high rate of nonoperative services in injury care, provider compensation for evaluation and management is increasingly important. Optimizing E&M coding allows for increased revenue generation for this work. It has been suggested in the literature that general surgeons generate up to a quarter of their income from E&M coding overall, and up to half in the work of trauma surgery [2, 5, 13]. Suggestions for optimization of charge capture include standardized note templates and increased partnering with coding; including having close proximity and relationships that encourage side by side rounding with providers as well as real time documentation assessment by coding. Additionally, while there is little written about medical scribes, particularly in the field of surgery, providers in fields outside of surgery have found using scribes may result in increased provider productivity & revenue [15].

Proper coding of E&M services may be able to improve revenue in the area of trauma care. For those patients without an operative procedure, E&M coding is the source of professional billing for the trauma provider. CPT codes for E&M level work have levels of service based on the complexity of work and this corresponds to the extensiveness of required documentation. Codes are separated into areas corresponding to the level of work provided including initial, follow up, subsequent care, ventilator management, and critical care. Common codes for ongoing, or subsequent hospital care include 99231 (low), 99232 (moderate), and 99233 (high). Higher levels require more documentation to support the level of complexity of care. Failure to appropriately document will result in down-coding and inability to bill for a potentially higher level of work than what is supported by documentation. Guidelines for components of documentation may change with revisions to the CPT manual and should be frequently reviewed.

Standardization of daily progress notes is one way to capture increased revenue. Standardized note templates guide providers to documenting the required billing elements. These templates may also help guide providers in focusing their exams on the review of system elements pertinent to the individual patient encounter, which allows the focus to be on the service provided without adding unnecessary documentation. Allowing coders to assign the level of service based on this documentation, instead of relying on providers to select the levels of service, may also increase compliance with guidelines and maximize charge capture. Barnes et al [2] were able to show significant increases in charges with standardized documentation and improved coder-provider teamwork despite decreases in volume of work. By utilizing a standardized note template with coders assigning the appropriate code level based on provider documentation they realized an increase of 394% in average revenue per admission, despite a 14% decrease in patient volume [2]. Davis et al [5] also found improved systemization of billing and coding resulted in increase in charges and wRVUs, which translated into increased professional collections. It is recommended to review notes annually and with any guideline updates to ensure consistent and complete documentation that accurately quantifies the level of work completed.
Critical Care Evaluation and Management: Maximizing Professional Billing

The CPT codes of 99291 and 99292 are used for billing professional critical care services. These codes are time based and are utilized based on service provided, not location. Critical care is defined as the direct delivery by a physician(s) medical care for a critically ill or critically injured patient. A critical illness or injury acutely impairs one or more vital organ systems such that there is a high probability of imminent or life threatening deterioration in the patient’s condition [4].

Critical Care codes require documentation of time spent as well as services provided; payment is based upon the time spent on the services. The duration of critical care services to be reported is the time the qualified provider spent evaluating, providing care and managing the critically ill or injured patient's care. That time must be at the immediate bedside or elsewhere on the floor or unit so long as the provider is immediately available to the patient [4]. Providers must spend a minimum of 30 minutes providing critical care services to the patient and must document this care provision. Additional time spent in providing critical care services to the patient (excluding the time spent on procedures) allows for use of additional critical care codes. Fakhry [7] provides a guide to appropriate use of these codes; and as always, current guidelines should be reviewed [4].

Patients who are in the Intensive Care Unit but do not require critical care services are billed at a subsequent hospital care level (e.g., 99233, 99232, or 99231) commensurate with the degree of documentation. Routine hospital care codes require documentation of history, physical examination, and medical decision-making elements. Payment is based upon the documentation elements provided.

It is important for providers to understand that all providers within the same specialty code and by the same billing group are considered to be the same individual. Thus, such individuals cannot bill more than one daily visit code, but if they are providing critical care on the same patient during the same day, their combined cumulative time can be billed (assuming appropriate documentation exists). Alternatively, providers in separate billing groups or different specialties, when each is providing critical care for the same patient are able to use the critical care CPT codes separately.

It is also important to understand which CPT codes are bundled into the critical care codes 99291 and 99292. Procedures and care provided that are not part of the bundled services can and should be billed in addition to critical care, but cannot be included in determining total time for the critical care code [4].

Teaching Guidelines in Professional Billing

As a reminder to providers who oversee care provided by students and residents, E&M services billed by teaching physicians require that the provider personally documents the performance of the service or physical presence of critical or key aspects of the service if and when performed by the resident. The physician also must personally document his/her participation in the care and management of the patient.

Denial Management in Professional Billing

Payers can generate denials of charge payment for specified reasons. Some examples of denials include CPT code used not covered, procedure was not deemed medically necessary, or modifier use was invalid [12]. Payment denials should be tracked by group and individual providers to monitor for trends in documentation or in coding and billing practices so adjustments can be appropriately made. It is also important for providers and coding & billing departments to readily understand the current National Correct Coding Initiative Edits (NCCI) and Medically Unlikely Edits (MUE) to understand appropriate bundling and which denials are appropriate to appeal.

Bundling exists to appropriately pay for procedures or services that are considered part of the payment for the original operative procedure. Appropriate modifier use can also assist in reducing denials for work that should be compensated as it is not part of routine postoperative care for the original service billed. Reed et al. [12] found that with careful computerized billing processes and education on proper modifier use denials dropped significantly for bundling. Programs utilizing technology such as described in this paper likely will become standard for many groups and facilities in the future and allow for better use of provider and coder time and improve overall charge capture using correct and updated CMS standards.

Denials should be appropriately appealed by providing supportive documentation and justification. For more information on denial managements, please consult the Trauma Center Association of America (TCAA) chapter on this topic in the Trauma Center Finance Resource Manual.
Summary

Providers should have thorough understanding of the principles of documentation, coding, and billing. Financial viability of the profession of trauma surgery is important to providers and facilities alike and should be a priority of managing the provider’s practice. It is important to have ongoing review of current documentation and coding practices as well as provider education on CMS guidelines as well as periodic review of revisions and updates to the guidelines. Improved relationships with open communication between providers and the professional coding and billing team fosters teamwork and proper adherence to guidelines. This should include a plan that results in actionable audits of provider coding practices and documentation with direct feedback, provision of coding education, and review of billing data with areas for improvement identified.

Links/Resources

American College of Surgeons Division of Advocacy and Health Policy
www.FACS.org/advocacy/regulatory

Centers for Medicare & Medicaid Services (CMS) Physician Center
https://www.cms.gov/Center/Provider-Type/Physician-Center.html

CMS Online Manual System

CPT (Current Procedural Terminology)

ICD 10 look up

ICD 10 CM
http://www.cdc.gov/nchs/icd/icd10cm.htm


National Correct Coding Initiative

National Global Surgery Policy
References


2. Barnes, SL et al. (2008). The devil is in the details: maximizing revenue for daily trauma care. Surgery. 144(4); 670-676.


