Abstract

Objectives: To define a new clinical practice paradigm originating at the University of California, San Francisco. Design: Retrospective administrative database review at a tertiary referral hospital.

Materials and Methods: A consortium model of an otolaryngology hospitalist practice was developed. Billing records, including CPT and ICD-9 codes, were reviewed to evaluate the number and type of consultations and surgeries generated during a two-year period.

Results: Three hundred seventy five new inpatient consultations generated 951 patient encounters. The most common diagnoses were respiratory failure (12%), sinusitis (10.6%), stridor (10.6%) and dysphonia (7.6%). Twenty-six percent of consultations involved a procedure or surgical intervention, the most common of which were tonsillectomy, adenotonsillectomy, and tracheotomy.

Conclusions: To our knowledge, ours is the first full-time Otolaryngology hospitalist model in the United States. The model represents a viable practice model and should be considered at other similar institutions.

Introduction

The hospitalist movement has seen marked growth since its inception 15 years ago having attracted over 30,000 Internal Medicine practitioners. More recently, the hospitalist model has been adopted by a number of other specialty fields including OB/GYN, Neurology, Obstetrics-Gynecology and General Surgery. Each of these models has arisen out of a need to treat acutely ill patients in an inpatient setting.

At our medical center, the need for an Otolaryngology hospitalist arose due to a need for attending Otolaryngology coverage of difficult airway cases and a high volume of inpatient consultations. We, therefore, created a consortium-based hospitalist model for an inpatient Otolaryngology practice. Here we review the first two years of our experience with this model.

Methods

Service Structure: In July 2009 an Otolaryngology – Head and Neck Surgery hospitalist consortium was formed at the University of California, San Francisco based on preliminary data (not shown) demonstrating a need at our institution. Each week a single faculty member was responsible for staffing inpatient, emergency room and acute care consultations. The hospitalist was also responsible for any surgical intervention required for those patients. During this period, the covering faculty suspended their primary practice and did not see new outpatients or perform elective surgeries. Intra-departmental referrals for subspecialty Otolaryngology care were made at the discretion of the on-call faculty.

Data Collection and Analysis: A retrospective administrative database review from 2009 – 2011 was performed. For each consultation encounter, the following de-identified data points were collected and analyzed: ICD-9 codes, CPT codes, age, gender, procedural service date, insurance type, charge amount, and pay amount. ICD-9 codes were then grouped by etiology and OHNS subspecialty for descriptive analysis. Due to administrative restrictions, data for emergency room and acute care consultation encounters was not available for analysis.

Diagnosis N (%)

Respiratory Failure 44 (11.9)

Sinusitis 39 (10.6)

Stridor 39 (10.6)

Dysphonia/Vocal Fold Paralysis 28 (7.6)

Tonsillitis/Pharyngitis 26 (7.0)

Epistaxis 25 (6.8)

Cellulitis, Face 19 (5.1)

Swelling, Head and Neck 19 (5.1)

Otitis 14 (3.8)

other 116 (31.4)

Table 2: Most Common Diagnoses

Table 1: Demographic data for the OHNS Hospitalist consortium

Demographic data 2009-2011

| Patients | N = 375 |
| Billable encounters | N = 951 |
| Male : Female | 1 : 1 |
| Age (n = 77) | 1 day - 68 years (mean 29.2, median 30.2) |
| < 18 years | 39% |
| < 1 year | 19.5% |

Results

Demographic data is shown in Table 1. There were 375 unique patients and 951 total encounters. We served 52% of the population. Age range was broad with a significant proportion of pediatric patients, many of whom were less than 1 year old.

The most common diagnoses are shown in Table 2. Respiratory failure, stridor and dysphonia accounted for 30% of all consultations. Acute bacterial sinusitis, chronic sinusitis, invasive fungal sinusitis and cystic fibrosis were the second most common group of diagnoses. Also common were tonsillitis/pharyngitis, abscess, epistaxis, cellulitis, and otitis. Many cases were complications of common head and neck conditions.

Procedures were frequent and 384 procedural codes were identified (Table 3). Flexible nasolaryngoscopy was the single most common. There were 122 sinonasal endoscopic codes. Seventy-one surgical endoscopies were performed. Tracheotomy, tonsillectomy, and various incision and drainage procedures were common. Advanced cases included maxillectomy with orbital extirpation, pterygoplaty and infratemporal fossa dissection, and laryngeal fracture repair.

The breadth of practice was assessed by categorizing ICD-9 diagnoses by Otolaryngology subspecialty (Figure 1). General and Pediatric Otolaryngology, Laryngology, and Rhinology were the majority of the practice. Otolaryngology, Head and Neck Surgery, and Facial Plastic Surgery were less than 10% of the volume each.

Distribution of underlying etiologies are shown in Figure 2. Airway-related cases represented 47% of the practice. Infectious/inflammatory etiologies accounted for 38% of consultations. Malignancy, iatrogenic conditions, trauma, and normal physiologic conditions were less common.

Discussion

Our results demonstrate the scope of our Otolaryngology Hospitalist practice is broad, with a wide distribution of diagnoses represented. There is a strong preponderance of laryngology and rhinology, reflecting the burden of upper airway challenges and acute sinonasal disease in hospitalized, critically ill patients. This is consistent with a previously proposed laryngology model. The need for procedural services or operative interventions is frequent, with a total of 384 procedural codes identified during this two-year consortium model period.

Our data supports a viable practice model for an individual Otolaryngology Hospitalist practitioner. Indeed, an Otolaryngology Hospitalist position was created out of this consortium model data and was formally initiated in July of 2011. Our current model follows the hospitalist tradition of maintaining a strong focus on quality improvement and patient safety initiatives. Difficult airway management and collaboration with Anesthesia/ICU teams are some areas of focus for our hospitalist service.

Integration into the larger hospitalist system within our institution has allowed for collaboration in systems-based practices. This approach is felt to improve the efficiency and quality of care delivered to our patients. This model has the additional benefit of freeing other Otolaryngologists within our department from attending to inpatient consultation needs, thereby limiting disruption of our outpatient practices. For the hospital, the Otolaryngology Hospitalist may also mitigate difficult airway liability risk by being urgently available for such cases. These elements fulfill the basic criteria proposed by Wachter for a successful specialty hospitalist practice.

In an academic setting, the Otolaryngology Hospitalist model allows for an opportunity to provide education and oversight to residents in the clinical management of surgical patients, acute care triage, bedside procedures, and operative technique. Our model allows for a balance of resident autonomy and oversight, with the goal of improving patient care.

A major limitation of the study is the retrospective use of de-identified administrative billing data. This limits our assessment of the multiple factors involved in the complex care of many of our patients. Data for acute care and emergency room visits was not available so these encounters could not be included in the analysis.

Conclusion

To our knowledge, ours is the first full-time Otolaryngology hospitalist model in the United States. The position was developed out of a service need at our tertiary care academic medical center with high volume clinical demands and a need for significant interdisciplinary collaborations. The breadth and variety of the practice is reported to allow potential consideration and dissemination of this new model.

References


OHNS Website: http://ohns.ucsf.edu