UROLOGYPRACTICE

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Electronic Preconsultation as a Method of Quality Improvement for Urological Referrals

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Abstract

Introduction: Preconsultation exchange is a method to promote expedited care among health care providers through communication between primary care providers and specialists before a clinic visit. We evaluated the efficacy of a preconsultation exchange in streamlining patient visits to the urology clinic with an emphasis on resource efficiency in a safety net hospital.

Methods: Between April 1, 2011 and March 31, 2012 there were 1,705 electronic referrals to our urology department. A random sample of 500 referrals was selected for evaluation, of whom 487 patients met study inclusion criteria. Scheduling outcome and preconsultation exchange were evaluated for each chief complaint.

Results: Patients with operative or procedural chief complaints, or potential oncologic diagnoses were most likely to be scheduled directly to the urology clinic. Of the 487 patients 36 (7.4%) were treated for benign urological conditions by primary care providers and did not need to be seen in the urology clinic. For 13.5% of patients recommended laboratory and radiological tests were obtained before the initial urology clinic visit as a result of preconsultation exchange.

Conclusions: Electronic preconsultation exchange served as a method of quality improvement by promoting urology clinic efficiency. Unnecessary appointments were limited and the completeness of appropriate laboratory and imaging studies at the initial visit was increased. Health care was streamlined by increased access to urological care and by management of benign urological conditions without a formal clinic visit in appropriate cases.

Key Words: urology, quality improvement, referral and consultation, primary health care, clinical protocols

Abbreviations and Acronyms

BPH = benign prostatic hyperplasia

CC = chief complaint

LUTS = lower urinary tract symptoms

PCP = primary care provider

The outpatient referral process between PCPs and specialists is an integral component of patient care. In 2009 more than half of clinic visits in the United States were with a specialist and more than a third of nonelderly patients seen by PCPs were referred to a specialist.[1,2] There is a growing supply and demand mismatch among patients who need specialist urological care and urologists, which is likely to intensify with the aging population and insurance expansion provisions in the Patient Protection and Affordable Care Act.[3] This supply and demand mismatch may be more acute in safety net settings.

Submitted for publication April 17, 2014.

Study received institutional review board approval.

* No direct or indirect commercial incentive associated with publishing this article.

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§ Financial interest and/or other relationship with American Medical Systems and Procter.

2352-0779/14/14-172/0

http://dx.doi.org/10.1016/j.urpr.2014.06.005
Urology Practice Vol. 1, 172-175, November 2014

Thus, we used urology clinic referrals to study preconsultation exchange in an eReferral system and its potential for more streamlined cost-efficient care.

Preconsultation exchange consists of communication between providers designed to expedite care by 1) answering a clinical question without requiring a formal specialty visit or 2) helping complete initial evaluation before a specialty clinic visit. Preconsultation exchange may help facilitate a more thorough and streamlined referral process that fosters information management in which the PCP and specialist understand and agree on the treatment plan and relational continuity between the patient and providers.[4]

Although prior groups evaluated general aspects of integrated electronic referral systems,[5,6] few specialty specific analyses have been done. We performed a descriptive study of the usefulness of preconsultation exchange for urological conditions, which to our knowledge has not previously been described. We hypothesized that the opportunity to guide PCPs through the pre-urology clinic evaluation and provide stepwise, guideline directed treatment plans for benign urological conditions would decrease the number of unnecessary urology clinic visits.

Methods

The eReferral System

San Francisco General Hospital is a safety net hospital that provides a comprehensive array of subspecialty services with more than 200,000 specialty visits annually. It serves a network of more than 25 primary care sites across San Francisco. Waiting time for appointments after referral to specialty clinics can be greater than 2 months. The San Francisco General Hospital eReferral system, an integrated electronic referral and consultation system, was started in 2007 and has been previously described.[5,6] After a urology eReferral is initiated PCPs are presented with urology specific evaluation and management guidelines for common urological disease processes. If the management guidelines provided do not answer the clinical question, referring PCPs may generate an electronic form that is automatically populated with contact and demographic information, and urology specific laboratory results from the electronic medical record. A free text field allows the referring provider to ask a consultation question or describe the reason for urology clinic referral. Each referral is reviewed by an attending urologist.

After reviewing the consultation the urologist directs patient scheduling based on clinical urgency. Inappropriate consultations can be redirected at this time and the urologist can request additional studies before the clinic visit or communicate management solutions to the PCP if a clinic visit is not deemed necessary. The PCP and the urologist can communicate via eReferral in iterative fashion to best manage the consultation. All correspondence through the eReferral system is captured in the patient electronic medical record. During initial urology clinic visits this information serves as a quick reference for the consultation and the preclinical evaluation.

Study Population

After receiving institutional review board approval we retrospectively reviewed the records of patients referred for outpatient urological consultation between April 1, 2011 and May 31, 2012. From the 1,705 urological consultations received during this period we selected a computer generated random sample of 500 patients. Patient age, gender and race, referring provider training level, total number of communication exchanges between practitioners, consultation final outcome (scheduled vs not scheduled) and the entire dialogue between referring/consulting providers was included in the data set for each patient. Repeat consultations for the same CC and consultations canceled by the PCP before the patient was seen in clinic were excluded from study. A total of 52 CCs were identified. Descriptive statistics were performed using Excel®.

Results

In a 1-year period 1,705 eReferrals were submitted to the San Francisco General Hospital urology clinic. For 10 of the 500 randomly selected patients duplicate referrals (same patient and CC) were submitted by 2 providers. One duplicate was randomly removed from the sample for each of these patients. Three patients were excluded from analysis because the referring provider canceled the consultation. The remaining sample consisted of 487 patients.

The study population primarily comprised male patients (78.4%) with a mean age of 53.4 years. The patient population was ethnically diverse with relatively similar proportions of patients who were Hispanic (26.8%), Asian (25.8%) and white (25.3%). The remaining ethnic groups included patients who were black (17%), Native American (2.0%) and other/not specified (2.5%). Of the 487 patients 374 (76.8%) were immediately scheduled, 66 (13.5%) were scheduled after presconsultation exchange and 47 (9.7%) were not scheduled for a clinic appointment.

The top 10 most common CCs represented 374 of the 487 patients (76.8%). Of these 374 patients 215 (77.6%) were scheduled directly to the urology clinic and 36 (16.6%) were scheduled after preconsultation exchange. Increased prostate specific antigen was the most common referral (47 patients or 9.6% of the total sample). This was the most common CC scheduled directly to the urology clinic, which occurred 89% of the time for this CC (table 1).

Five of the top 6 CCs scheduled directly to the urology clinic were for potentially operative or procedural cases. Microscopic hematuria was the second most common referral and the second most common CC to be scheduled to the clinic directly and after preconsultation exchange. CCs not scheduled directly to the clinic were nonoperative and involved medical management of benign conditions. LUTS/BPH symptoms and recurrent urinary tract infections were the most common CCs that were managed only by preconsultation exchange with 59% and 27%, respectively, resulting in a scheduled clinic visit (table 1).