Reinitiation of Withdrawn or Modified Neuroimaging Requests After Collaborative Consultation

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Abbreviations

CPT
current procedure terminology

CT
computed tomography

CTA
computed tomography angiography

MRA
magnetic resonance angiography

MRI
magnetic resonance imaging

Rationale and Objectives: This study explored four common sequences of interaction between providers and a collaborative, nondenial model preauthorization program to assess the extent to which the collaborative consultation impacted care delivered to a patient in the 30 days after a neuroimaging consult. In each of the sequences examined, providers interacted with the preauthorization program's consulting radiologist and modified their imaging study requests during the interaction. If providers did not subsequently reinitiate the original study requests, then it suggests that the study resulting from the collaborative consultation fulfilled the providers' clinical objective.

Materials and Methods: Four years of retrospective authorization and clinical data were analyzed to determine the rate at which requests modified through peer-to-peer consultation were reinitiated in the following four sequences: 1) request for head computed tomography (CT) modified to head magnetic resonance imaging (MRI), 2) request for both head CT and intracranial CT angiography (CTA) or both head MRI and intracranial MRA modified to a request for a single study, 3) request for both a CT of the head and sinuses modified to a request for a single study, and 4) request for an MRI of the head and orbits modified to a request for a single study.

Results: In three of the sequences, no provider reinitiated a study within 30 days. In the fourth sequence, only 4 of 64 (6%) withdrawn requests for head CT/MRI or head CTA/MRA were reinitiated within 30 days.

Conclusions: Modifications after collaborative consultations rarely lead to repeat imaging requests, confirming the utility of the consultations.

Key Words: Preauthorization; radiology benefits management; neuroimaging.

RATIONALE AND OBJECTIVES

Although dramatic annual increases in spending on medical imaging have recently abated (1,2), there continues to be excessive imaging utilization (3). Unnecessary imaging can cause inconvenience to the patient, add to the cost of health care, and/or expose the patient to unnecessary ionizing radiation. Several measures have been taken to curb unnecessary utilization, including installing physician order entry decision support systems at sites of care, reducing reimbursements for imaging studies through the Deficit Reduction Act of 2005 (4) and requiring clinicians to have their plans reviewed by preauthorization services (5,6), There has been some evidence that other factors such as preauthorization may have played a role in the recent slowdown, as the reduction in utilization has been greater in hospitals, where the reimbursement reduction from the Deficit Reduction Act of 2005 did not apply (6). Research on the impact of consultative preauthorization on practice patterns has been limited, and given the multitude of initiatives to decrease utilization, a drop in utilization is not an inherent indicator of the success of consultative preauthorization. Although it has been shown in aggregate that providers within a single radiology department are unlikely to reinitiate computed tomography (CT) and magnetic resonance imaging (MRI) studies after interacting with a consultative preauthorization process, little attention has been paid to the impact of preauthorization on utilization in specific clinical sequences (7).

One concern has been that preauthorization needlessly encumbers physicians by requiring them to engage in extra steps that may not improve the quality of care (8). Preauthorization services work to modify the studies that providers order when

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the studies are not warranted by evidence-based guidelines. Although these modifications may improve the quality of care delivered, quality could suffer if preauthorization suggestions do not meet provider needs. One indicator of whether preauthorization recommendations do not meet provider needs is the extent to which providers reinitiate study requests that had previously been modified by the preauthorization process. When this occurs, patients may be inconvenienced by having to receive imaging over multiple sessions, instead of in one session. The objective of this study was to evaluate the extent to which clinical consultations related to neuroimaging requests meet clinical objectives by examining the frequency with which providers reinitiate study requests.

Preauthorization Process

Consultative preauthorization is a multistep process that aims to align provider study requests with evidence-based guidelines (9). The process is similar to other preauthorization processes, in that the provider seeks authorization to perform the study before it is conducted. Rather than denying studies that appear to be inconsistent with guidelines, consultative preauthorization programs engage in peer-to-peer conversations with providers. The goal of the conversations are either to obtain the information needed to justify the original request or to educate providers on why their requests are suboptimal and suggest alternative best-practice studies.

The Figure 1 depicts the workflow used by HealthHelp, LLC, a company which offers preauthorization services and provided the data used in this research. To obtain preauthorization to perform a study, providers must send their request to the preauthorization program (A). The preauthorization program uses a multi-tiered review system to examine imaging requests. A provider is only engaged in a consultation if a request is not approved during review by a customer service representative, nurse, or radiologist. These reviews are conducted using a set of evidence-based rules established by HealthHelp physicians and based on peer-reviewed literature and guidelines established by professional organizations. Rules are continuously updated to maintain alignment with new evidence and standards of care. When a study does not meet criteria, the preauthorization program requires a peer-to-peer consult between the provider issuing the request and a consulting radiologist employed by the program. If the provider does not respond to the program's request within 2 business days, authorization is not issued ("no call back"). If a peer-to-peer consult occurs (B), there are four potential outcomes. The provider 1) decides not to do any study, 2) provides additional information to the consulting radiologist to justify the examination initially considered to be suboptimal, achieving consensus between provider and consulting radiologist, 3) makes the target modification to the request proposed by the consulting radiologist, or 4) fails to reach consensus with the program and receives authorization to perform the study anyway ("no consensus") (C). Rates of "no consensus" status are monitored to detect provider outlier behavior. This study examines a 30-day period, in which providers either reinitiate the initial study request (D) or do not reinitiate the request made before the modification. Providers interacting with the consultative preauthorization program do not receive denials and never need to write appeals, as authorization is given when providers engage in a peer-to-peer consult with the consulting radiologist whether they reach a consensus or not (9).

MATERIALS AND METHODS

Data Source and Sample Population

The data used in this retrospective study were authorization and clinical records provided by HealthHelp. The authorization records describe the action taken by the preauthorization program, the patient's primary diagnosis code, the initial request's modality and procedure code, the modality and procedure code authorized by the program, and the number of contacts between the provider's office and the program.

The sample population consisted of individuals with commercial or Medicare insurance provided by Humana, Inc. and who received care following a provider request falling into one of the four diagnostic sequences, as described in the Outcomes section, between October 1, 2010, and September 30, 2014.

Outcomes

The primary outcome of this study was reinitiation of initial study requests after a collaborative consultation for four common neuroimaging sequences. The sequences to be studied were identified by a radiologist who had conducted over 35,000 reviews for the program over a period of 5 years and selected for the study because of their high frequency and relative clarity regarding what imaging requests fulfilled the requirements of the sequence.

The four sequences examined by the study are detailed in Table 1. In sequence 1, the provider requests a head CT (A), the consulting radiologist recommends a head MRI instead (B), and the request is then modified to be a head MRI (C). If the provider reinitiates a request for a head CT and performs the study within 30 days of the initial request (D), then the initial request is considered to have been reinitiated. In sequence 2, the provider requests both head CT and intracranial CTA or both a head MRI and an intracranial MRA (A), but the consulting radiologist recommends withdrawal of one of the studies (typically the angiogram; B), and the provider agrees to withdraw one of the studies (C). Reinitiation occurs if the provider reinitiates the request for the withdrawn study within 30 days (D). Likewise, in sequence 3, the provider requests both a CT of the head and sinuses, typically for a patient complaint of a headache (A), if it is unclear whether the pain is because of an intracranial etiology or sinusitis. Because the head CT images most of the sinuses, the consulting radiologist recommends just a head CT unless sinus disease is more highly suspected (B),