

# Implementation of Criteria Sets to Reduce Inappropriate Utilization of Hysterectomy in a Health Plan

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## Abstract:

- **Objective:** To evaluate the effectiveness of using evidence-based criteria in managing medical utilization and reducing practice variation in hysterectomy.
- **Methods:** A program that required prior authorization for hysterectomy procedures based on meeting evidence-based criteria was implemented.
- **Results:** Two years after implementation of the program, a 25% reduction in network-wide hysterectomy rate and a 30% decrease in network-wide variation was observed.
- **Conclusion:** Implementing evidence-based guidelines removes many of the nonscientific drivers of utilization and is a useful tool to manage cost and quality.

Escalating health care costs is a central economic concern in the United States. The drivers of increasing costs are complex and numerous; however, unwarranted variation in utilization has been shown to be a factor [1,2]. Hysterectomy is second only to cesarean section as the most frequently performed major operation in women in the United States. The most common indications leading to hysterectomy are heavy or irregular uterine bleeding, pelvic pain, and pelvic pressure [3]. While the procedure can improve quality of life in certain women, many hysterectomies are done for inappropriate clinical reasons [3–5].

In August 2005, our health plan implemented evidence-based decision guidelines to reduce the number of inappropriately performed hysterectomies. In this article, we report on our experience.

## Methods

### Setting

Tufts Health Plan is a not-for-profit, IPA-model managed care organization in Watertown, Massachusetts. Tufts Health Plan has a contracted network of 5000 primary care physicians, 18,000 specialists, and 80 acute care hospitals in

Massachusetts, New Hampshire, and Rhode Island. The health plan provides a variety of products including HMO, POS, PPO, and Medicare Advantage for more than 700,000 members.

### Data Review

Health care analysts analyzed health plan data to assess utilization rates among practices. In 2004, the average rate for nonradical hysterectomy abdominal and vaginal procedures (including laparoscopic procedures) at our health plan was 4.06/1000 for females aged 15 years or older. The hysterectomy rate varied from 12.4/1000 to 1.8/1000 across physician groups. We compared our rates with Healthcare Effectiveness Data and Information Set (HEDIS) data. According to 2005 HEDIS data, the abdominal hysterectomy rate was 5.75/1000 and the vaginal hysterectomy rate was 2.84/1000 for females aged 45 to 64 years [6]. HEDIS data reflect all hysterectomy procedures, including radical procedures for cancer treatment.

Although our plan's hysterectomy rate was below the HEDIS national average, we set a goal to attain a nonradical hysterectomy rate of 3/1000, which approximated the HEDIS 90th percentile for performance in 2005.

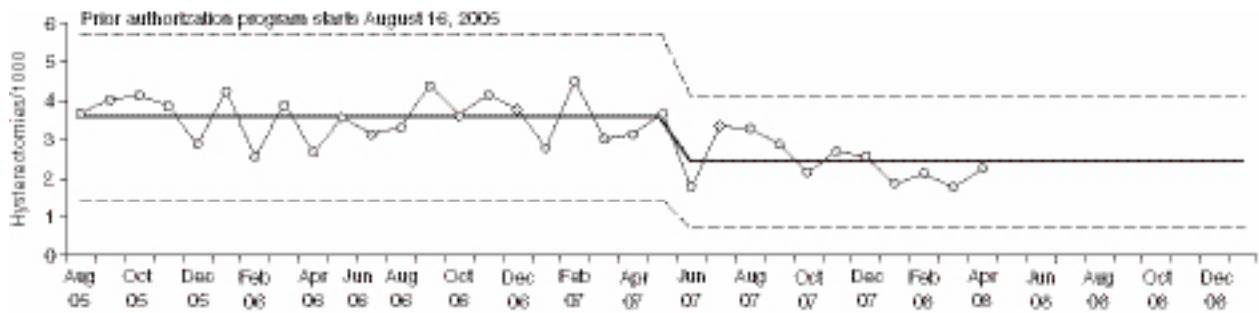
### Criteria and Review Process

To improve our utilization of hysterectomy, we implemented a program that required prior authorization for hysterectomy procedures based on meeting evidence-based criteria. We applied McKesson's InterQual criteria to make our determinations. The criteria were developed by McKesson clinical research staff, which includes physicians, registered nurses, and other health care professionals. The clinical content is annually reviewed, updated, and validated by a national panel of clinicians and medical experts, including

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# HYSTERECTOMY UTILIZATION



**Figure 1.** Hysterectomy utilization rate, participating physicians.

those in community and academic practice settings as well as within the managed care industry throughout the United States. The clinical content is a synthesis of evidence-based standards of care, current practices, and consensus from licensed specialists and/or primary care physicians [7].

Five InterQual hysterectomy criteria sets were utilized:

1. Radical hysterectomy
2. Abdominal hysterectomy with or without bilateral salpingo-oophorectomy (BSO)
3. Vaginal hysterectomy with or without BSO
4. Laparoscopically assisted vaginal hysterectomy with or without BSO
5. Laparoscopic supracervical hysterectomy with or without BSO

Each criteria set includes clinical indications for the procedure based on evidence from the literature. Our program exempts the prior authorization requirement for radical hysterectomy.

Physician requests for authorization are either approved, denied, or deferred pending more information. The requests are reviewed by medical directors at the health plan (licensed physicians) within 5 business days. If a request is denied, a physician can provide more data and patient information and ask for reconsideration. A formal appeal may be filed if the treating physician believes the service is in accord with practice guidelines and authorization criteria and the request for authorization has been denied.

Prior to implementation of the criteria sets, we notified our network physician leaders, including integrated network chief medical officers and provider organization presidents, of the program and provided a 60-day period for comments and feedback. The major concerns were related to understanding the criteria and the burden of administrative process. When the policy was finalized, our medical policy department disseminated the policy to the physician

network through a physician newsletter and Web communications. Initially, there was push back from the physician community, who requested more information about current utilization rates and variation analysis. After we shared data showing unwarranted practice variation and the evidence supporting the guidelines, physician leaders recognized the potential opportunity for improved quality and reduced costs.

## Results

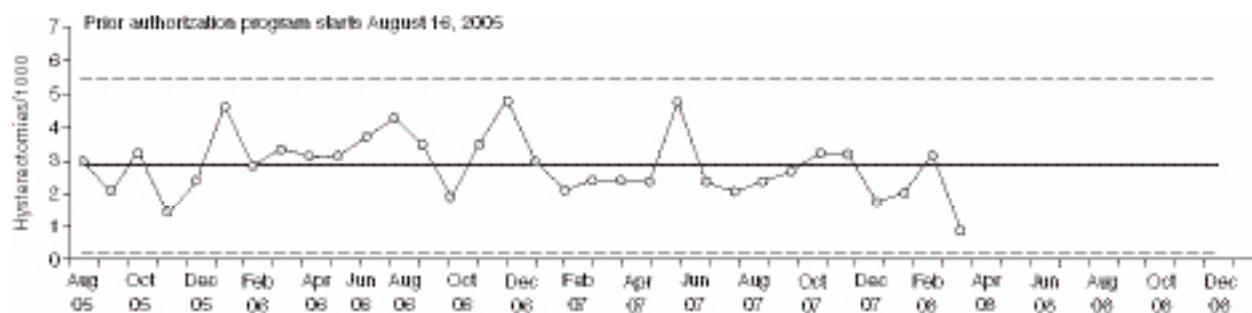
After the program's inception in August 2005, we saw a decline in the overall rate of hysterectomy from 4.06/1000 pre-program (August 2004–July 2005) to 3.03/1000 post-program (August 2005–December 2008) ( $P < 0.01$ ). The variation in utilization among physician groups also decreased by 30% (from 6.9-fold variation to 4.8-fold).

We also compared hysterectomy utilization rates of physicians participating in the program versus physicians who did not participate due to contractual exception for certain medical management programs. This nonparticipating group represented 14% of primary care physician and 12% of obstetrician/gynecologist network providers, caring for 22% of our members. For the program participating group, the utilization rate decreased 32% from 4.12/1000 to 3.55/1000 in the first 21 months after program implementation, with a further reduction to 2.41/1000 in the last 11 months (Figure 1). The utilization rate of nonparticipating physicians did not change and was 30% higher than the program group. Utilization variation also remained unchanged during the same time period (Figure 2).

The rate of appeals for all utilization management programs including hysterectomy have remained low (Table).

## Discussion

With alternative nonsurgical treatment options available and the increase in laparoscopic procedures for the treatment of women with moderate to severe pelvic symptoms, hysterectomy rates may decrease without intervention. However,



**Figure 2.** Hysterectomy utilization rate, nonparticipating physicians.

**Table.** Hysterectomy Requests, Denials, and Appeals

Quarter	Requests	Initial Approved	Initial Denied	Appealed	Overtured	Denial Rate, %
2005 Q4	154	135	19	—	—	12.3
2006 Q1	171	159	12	—	—	7.0
2006 Q2	148	145	3	—	—	2.0
2006 Q3	131	125	6	1	—	4.6
2006 Q4	144	136	8	—	—	5.6
2007 Q1	148	143	5	1	—	3.4
2007 Q2	157	150	7	—	—	4.5
2007 Q3	144	133	11	—	—	7.6
2007 Q4	141	134	7	2	1	4.3
2008 Q1	190	187	3	—	—	1.6
2008 Q2	158	154	4	—	—	2.5
2008 Q3	163	161	2	1	—	1.2
2008 Q4	192	187	5	1	1	2.1

hysterectomy rates among U.S. geographic regions vary greatly. We demonstrated that applying evidence-based criteria to clinical decision making can result in reduced utilization and variation in a population. Our hysterectomy utilization rate was reduced by more than 25%, and health plan variation in hysterectomy rates was reduced by 30%.

Implementing evidence-based management programs requires collaboration with physicians and their office staff in order to minimize the manual work that can be involved with these programs. We have been implementing automation for programs because the more automation that is integrated into the process, such as Web-based auto-authorization, the more acceptable it is from the administrative aspect of a busy medical practice. We also believe there is an opportunity to create consumer-centric companion materials that empower patients to understand when certain medical services are medically necessary based on the evidence. Such a strategy will lead to better informed patients and bring the patient-

physician relationship into alignment around the scientific information.

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