

Hysterectomy in the United States, 1965-84

ROBERT POKRAS, MA, AND VICKI GEORGES HUFNAGEL, MD

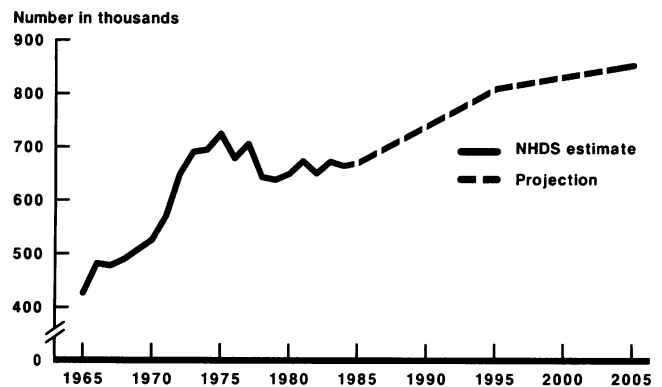
The prospect of undergoing major surgery is frightening to many people. Yet for about 37 per cent of all women, this prospect is a reality by the time they are 60 years old as a result of a single procedure—hysterectomy. Of the 97 million women ages 15 years or older in the United States in 1985, about 18.5 million have had a hysterectomy.

This information comes from a recent National Center for Health Statistics report on hysterectomies in the United States for the period 1965–84.¹ The estimates in this 20-year study are based primarily on data collected by the National Hospital Discharge Survey. In addition to NHDS data, a table in the report presents estimates of hysterectomies in US military hospitals. With fewer than 2 per cent of all hysterectomies performed in these facilities, the NHDS accounts for almost all hysterectomies performed in the United States.

The report provides estimates of hysterectomy by age, race, geographic region, diagnosis, surgical approach, and whether or not a bilateral oophorectomy was also performed. In addition, data from the NHDS were used to calculate the proportion of women with intact uteri by age through 1984—an extension of work by Lyon and Gardner.² To be as up to date as possible, some of the data presented here are for 1985, even though the cited report covers only the period through 1984.

During the two decades 1965-84, about 12.5 million women in the United States had a hysterectomy. It was the most common major surgery each year until 1981 when the rise in births by cesarean section supplanted hysterectomy as number one. Hysterectomy remained the second most common major surgery from 1981 through 1985.

The largest number of hysterectomies was in 1975 when there were 725,000, or 8.6 per 1,000 women 15 years of age or older. Since then the annual number and rate have declined slightly and leveled off to about 650,000 hysterectomies or 7 per 1,000 women in the 1980s (Figure 1). The average length of stay for women hospitalized for hysterectomy has decreased from about 12 days in 1965 to about seven days in 1984, consistent with a general reduction in average length of stay for all hospitalizations. This decrease was likely due to



SOURCE: NCHS, National Hospital Discharge Survey, 1965-1985

FIGURE 1—Number and Projected Number of Hysterectomies in the United States, 1965-2005

factors such as fewer complications resulting from improved surgical techniques, use of prophylactic antibiotics in high risk-patients, and earlier post-operative ambulation.

The average age at time of hysterectomy during the 20-year period studied was 42.7 years, median 40.9 years, with very little variation across years. Women 30-49 years of age run the greatest risk for the procedure with the highest rates for women in the age group 40-44 years. Age-specific rates in the report are presented two ways—based on all women, or based on women at risk (those with intact uteri). In 1984 there were 16.2 hysterectomies per 1,000 among women aged 40-44 years (20.3 per 1,000 among women at risk). Age-specific hysterectomy rates for 1984 are presented in Table 1.

Analyzing hysterectomies by diagnosis using data from the NHDS presented some problems. The major shortcomings were that diagnostic information for the NHDS is only as good as that reported on the patient's medical record face sheet because entire medical records and pathology reports are not examined in this survey,^{3,4} and three different versions of the International Classification of Disease were used from 1965 through 1984. Given these limitations, we developed an algorithm (described in the report¹) to assign a principal diagnosis for each hysterectomy, even though more than one diagnoses may have contributed.

Our approach showed that fibroids, prolapse, and endometriosis have been the most common indications for hysterectomy. From 1970 through 1984 these diagnoses accounted for 26.8, 20.8, and 14.7 per cent of all hysterectomies,

Address reprint requests to Robert Pokras, MA, Statistician, Room 2-43, National Center for Health Statistics, 3700 East-West Highway, Hyattsville, MD 20782.

Copies of the report, *Hysterectomies in the United States*, by R. Pokras and V.G. Hufnagel, *Vital and Health Statistics Series 13*, No. 92 are available from the US Government Printing Office, Washington D.C. 20402. Order stock No. 017-022-01026-7; price is \$2.00.

For more information about this and other reports and data from the National Center for Health Statistics, write to the Scientific and Technical Information Branch, NCHS, 3700 East-West Highway, Hyattsville MD 20782, or call (301) 436-8500.

TABLE 1—Rate of Hysterectomies for all Females and for Females with Intact Uteri by Age: United States, 1984

Age (years)	All Females	Females with Intact Uteri
15-19	0.1 ^a	0.1 ^a
20-24	1.7	1.7
25-29	6.1	6.3
30-34	9.3	9.9
35-39	14.7	17.1
40-44	16.2	20.3
45-49	15.8	23.0
50-54	7.8	11.8
55-59	4.3	6.8
60-64	4.4	7.0
65-69	4.8	7.2
70-74	4.4	6.9
75-79	3.1	5.0
80-84	2.5	4.3
85≥	0.5 ^a	1.0 ^a
Total 15 years ≥	6.9	8.6

^aEstimates based on cell size less than 30 cases.

respectively. These were followed by cancer, 10.7 per cent, and endometrial hyperplasia, 6.2 per cent. The remaining 20.7 per cent were classified to other diagnoses such as: disorder of menstruation and abnormal bleeding; diseases of the parametrium or pelvic peritoneum; infectious and other diseases of the cervix, ovaries or fallopian tubes; obstetrical catastrophe; and benign neoplasms other than fibroids.

In examining trends in hysterectomy rates by diagnosis, an interesting finding was that the number and rate of hysterectomies for endometriosis have increased steadily from the 1960s to the 1980s; this increase was appreciably larger than increases for other diagnoses. From 1965-67 to 1982-84, the rate of hysterectomies for endometriosis increased 2.2 fold. Several factors may have contributed to this finding:

- First, endometriosis may be more prevalent among women who delay childbearing, a trend which has increased during the past 20 years;⁶ also, the use of oral contraception, which helps protect a woman from endometriosis, has declined since the 1960s.⁷

- Second, endometriosis may be diagnosed more often and more accurately with improved and more widely used technology (i.e., laparoscopy).

- Third, these data may reflect a change in medical practice, i.e., physicians may have become more likely to perform a hysterectomy for endometriosis.

Many women who undergo hysterectomy also have a bilateral oophorectomy. In 1965, 25 per cent of women with a hysterectomy also had both ovaries removed; this increased to 41 per cent in 1984. While women under 45 years of age were less likely to have both of these procedures during the same hospital stay than women age 45 and over, the practice of performing this combination of procedures for women 45-64 years of age has increased greatly: from 35 per cent of all women ages 45-64 years of age having a hysterectomy in 1965 to 66 per cent in 1984. Bilateral oophorectomies with a hysterectomy may be performed to prevent ovarian cancer; estrogen replacement therapy is required for pre-menopausal women, however.

A cohort analysis was used to examine the dynamics of hysterectomy on the population of women as they aged during the period 1960 through 1984. These estimates provide information on the proportion of women with intact uteri by

age and are necessary to correctly estimate rates of uterine cancer and other uterine disease.² For example, by 1985 about 64 per cent of women 60-64 years of age had intact uteri. To correctly estimate uterine cancer rates, the crude rate must be divided by 0.64 to arrive at a rate based on the population at risk of the disease.

Estimates in the report were generated directly from the NHDS, or from the survey in conjunction with population estimates from the Census Bureau. These data can be used to generate other estimates. For example, Sandberg, *et al*, estimated that the average inpatient cost of a hysterectomy in 1983 was \$4,500.³ By using this value the national bill for the 670,000 hysterectomies performed in 1985 was about \$3 billion. This estimate does not factor in recent increases in the cost of medical care, nor does it include other direct costs involved in post-hospitalization care, including complications. Indirect costs such as time lost from work are not included in this figure so that the overall cost of hysterectomies would be substantially higher if all of these element were taken into account.

The effect of population dynamics and age-specific hysterectomy rates on the number of hysterectomies is seen in Figure 1. In 1970 and 1985, overall (and age-specific) hysterectomy rates were similar, but the increase in number of women in 1985 resulted in an additional 139,000 hysterectomies. Assuming constant age-specific hysterectomy rates the number of hysterectomies will increase over the next 20 years as the population of women in the age group 30-49 years increases.

In 1986, the first members of the "baby boom" generation turned 40, and in 1987 those in the peak of the baby boom population turned 30. Women in this group will be passing through the ages of greatest risk of hysterectomy during the next 15 to 20 years. The projections in the figure, based on 1985 age-specific hysterectomy rates, show the impact of the baby boom generation moving into the ages at which the rates of hysterectomy are greatest. Without changes in the hysterectomy rate the number of hysterectomies will rise, from 670,000 in 1985 to about 810,000 in 1995 and 854,000 in the year 2005.

Hysterectomy is an operation which affects about one of every three women in the United States, making it, by sheer magnitude, a very important health issue. There has been considerable debate concerning the efficacy of elective hysterectomy. While data from the NCHS cannot shed light on this debate, these data provide important information about the procedure. They are important to women, the medical care community which serves women, and to those doing research on women's health and uterine disease.

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