Hormone Replacement Therapy

Knowledge and Use in the United States

Acknowledgments

This publication was prepared by Kate M. Brett and Yinong Chong, under the general direction of Elsie Pamuk and Jennifer H. Madans. Computer assistance was obtained from Yelena Gorina. General guidance on the content was obtained from Vivian Pinn and Loretta Finnegan of the Office for Research on Women's Health, National Institutes of Health. This publication was funded in part by the Office for Research on Women's Health, NIH.

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In this Chartbook

Summary of Highlights

❑ Almost half of all postmenopausal women in the U.S. reported having ever used hormone replacement therapy (HRT). Pills were the most often used HRT preparation (**Figure 1**).

❑ Although most women started using HRT around the time of menopause, 25% started taking it 5 or more years after menopause (**Figure 2**).

❑ Among women who were at least 10 years post-menopause, 14% had taken HRT pills at least 10 years (**Figure 3**).

❑ Women with surgical menopause were much more likely to have used HRT and were more likely to be currently using it compared to women with natural menopause (**Figure 4**).

❑ There was no difference in HRT use between age groups for women with natural menopause. Ever use of HRT increased with age through the 55-64 year age group among women with surgical menopause (**Figure 5**).

❑ Non-Hispanic white women were more likely to use HRT than either non-Hispanic black or Mexican American women (**Chart 6**).

❑ Women with more than a high school education or whose household income was above the poverty level were more likely to use HRT than women with less education or lower family income (**Charts 7 and 8**).

❑ There are no substantial differences between HRT users and nonusers in terms of risky health behaviors and self-reported health (**Figure 9**).

❑ The prevalence of diabetes was twice as high among nonusers and past HRT users than among current users (**Chart 10**).

❑ Approximately 45% of women 40-60 years of age reported receiving counseling from a physician about the pros and cons associated with using HRT after menopause (**Figure 11**).

❑ White women were more likely to receive HRT counseling than black or Hispanic women with the same level of education; women with higher levels of education were more likely to receive counseling than women with less education, regardless of race or ethnicity (**Figure 12**).

❑ Women who had received recent preventive health services such as mammograms, Pap smears, and general examinations were much more likely to have received HRT counseling than those who had not. The more recent the services, the greater the likelihood the women had received HRT counseling (**Figure 13**).

❑ Of all ambulatory medical care visits by women 40 years of age and over, 7.5% included an HRT prescription (**Figure 14**).

❑ Obstetric/gynecology visits were 1.9 times more likely to include an HRT prescription than visits to primary care physicians (**Figure 15**).

Overview

Why This Chartbook?

While much has been written about the risks and benefits of hormone replacement therapy (HRT), there is much less documentation of its actual use in the U.S. This chartbook offers researchers, health-care professionals, and policy makers an inventory of information available about HRT use from recent nationally representative data collected by NCHS. The topics include:

- The patterns of HRT use
- Factors associated with HRT use
- Characteristics of HRT users
- The physician's role in HRT use

Each of the NCHS surveys used include different information regarding HRT usage. Thus, the content of the survey dictated which data source to use to address a particular question. Because one of the surveys used collected data periodically rather than annually, use of the most recent data for each question did not result in answers that all came from the same time period.

This chartbook is not intended to be a guide on whether or not to use HRT, since that decision must be made by each individual women with help from her physician. However, this overview of HRT prescription and use in the United States will be helpful to researchers and policy makers working in the arena of women's health.

Brief history of HRT use

The decrease in estrogen levels in women going through menopause has interested doctors and patients for many years. Synthetic estrogen was developed in the 1920's, and by the mid-1930's it was being used to relieve menopausal symptoms. In the mid-1960's, the book *Feminine Forever* touted the use of synthetic estrogen as a way to maintain youth and femininity. This book became a hit in the lay press and greatly increased the demand for HRT.

HRT use decreased sharply when the connection between use of synthetic estrogen and elevated risk of endometrial cancer was recognized in the 1970's. Use of HRT has slowly gone up since the 1980's, when long-term research established the protective effects of HRT against osteoporosis and possibly heart disease.

Improved treatment schedules and delivery systems have increased HRT use in the U.S. To minimize the risk of endometrial cancer, physicians are much more likely to give lower doses of estrogen and to combine it with progesterone for women whose uteruses are intact. Furthermore, many different formulations and dosing schedules now permit physicians to better tailor HRT to each patient.

Although we know much more about HRT today, controversy still surround its risks and benefits. Those who caution against using HRT use often cite the increased risk of endometrial and breast cancer associated with using estrogen, especially for extended lengths of time, and its

common side effects such as breast tenderness, nausea, unpredictable bleeding, bloating, and mood fluctuations. Those who advocate using HRT frequently point out that HRT appears not only to alleviate menopausal symptoms, but also to reduce the risk of osteoporosis, and possibly heart disease and Alzheimer's disease, all of which could have much greater impact than cancers on the health of postmenopausal women.

Until we have more definitive information about HRT's effects on diseases, each woman must, with the help of her physician, weigh the risks and benefits of use. Whether or not a woman uses HRT depends on many factors: how she perceives the risks and benefits of HRT vs. the risks and potential harm of menopausal symptoms and various diseases affected by HRT; the information she obtains from her physician about HRT; and her access to health care.

Chartbook methodology

The data in this chartbook came from nationally-representative surveys:

- The Third National Health and Nutrition Examination Survey (NHANES III), 1988-1994;
- The National Health Interview Survey (NHIS), 1998; and
- The National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS), 1997-1998.

Details about each of these surveys are in the Technical Notes section of this chartbook. Some of the terms used in this report have specific technical definitions. The definitions are also listed in the technical information section.

Statistical tests have been made to assess whether observed differences are due to the random variation introduced by obtaining information on a sample rather than the total population. If a difference is described in the text of this chartbook, it has been found to be statistically significant.

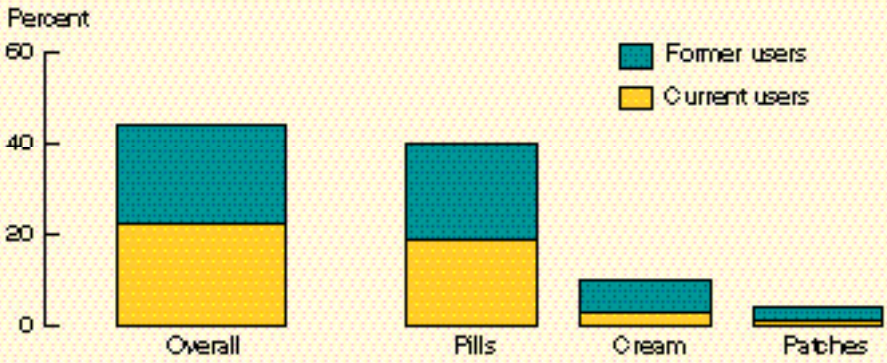
Patterns of HRT Use

This section focuses on patterns of HRT use among postmenopausal women. Topics explored include the proportion of women who currently and previously used HRT, when HRT was initiated relative to age at menopause, and for how long women have used HRT. The data used was obtained between 1988 and 1994 from the Third National Health and Nutrition Examination Survey (NHANES III).

Peri-menopausal women, even if they used HRT, are not included in these analyses due to the way HRT information was collected in the NHANES survey. As a result, the estimates of total use might be lower than those found in other studies.

What percent of postmenapausal women use HRT, and in what forms?

Figure 1. HRT use in pills, cream, injection, suppository or patches: United States, 1988-94



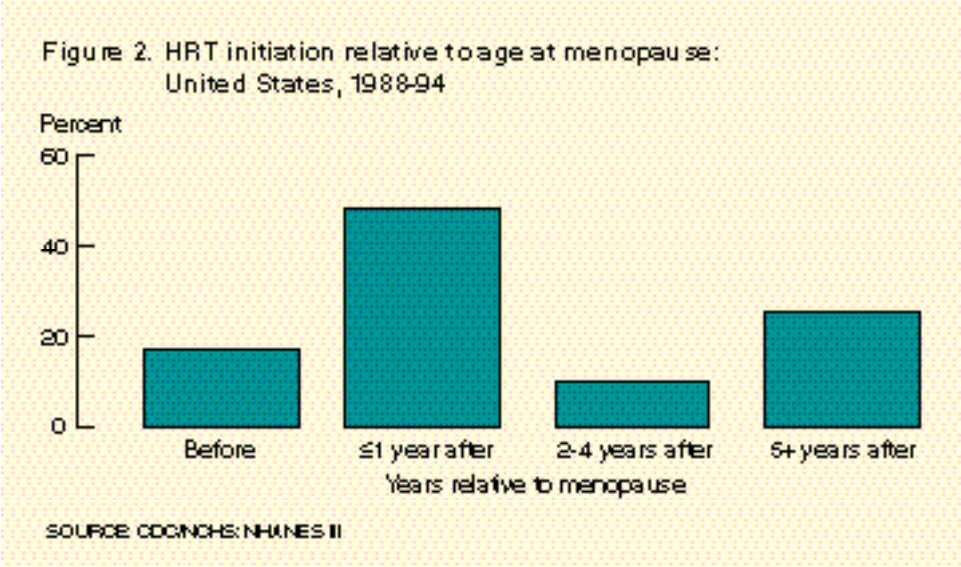
SOURCE: CDC/NCHS: NHANES III

❑ NHANES III (1988-94) data indicate that overall, 44% of postmenopausal women reported having ever used female hormone pills, vaginal cream, suppository, injection, or skin patches, and some women used more than one form of hormone preparation simultaneously or sequentially[1]. Pills were the most popular type of hormone preparation (40% of postmenopausal women), followed by cream/suppository/injection[2] (10%), and then by patches (4%).

❑ Among women who ever used pills, about 50% were still using them at the time of interview. Among women who ever used hormone cream, injections or suppositories, 32% were still using those forms of HRT. Among women who ever used HRT patches, 30% remained currents users.

❑ Among current users, 93% were using pills, 26% were using hormone cream, injections or suppositories, and 15% were using patches. Thirty one percent (31%) were using two or more forms of HRT concurrently (data not shown).

When do women begin using HRT?

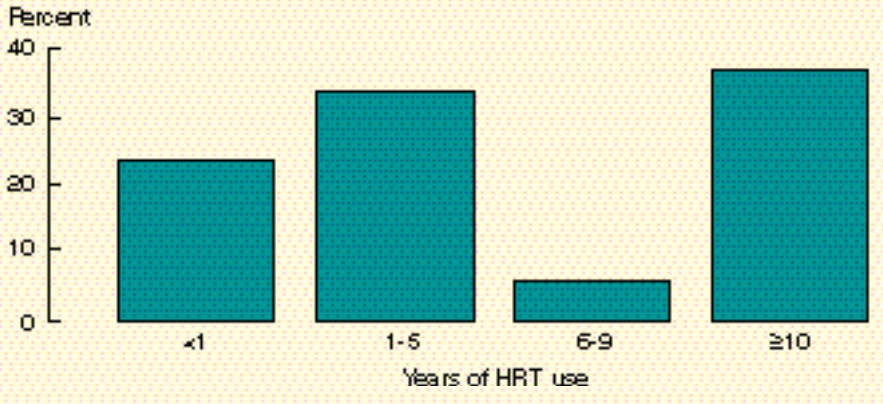


❑ Among postmenopausal women who had ever used HRT:

- 17% started this therapy before they experienced natural or surgical menopause,
- 48% started this therapy within a year after menopause,
- 10% started 2-4 years after menopause, and
- 25% started 5 or more years after menopause.

For how long do women use HRT?

Figure 3. Duration of HRT pill use by women at least 10 years post-menopause: United States, 1988-94



SOURCE: CDC/NCHS NHANES III

❑ To better investigate duration of use, the analysis was limited to women who are at least 10 years beyond menopause. Some women started to use HRT during the perimenopausal period, and thus use before the actual onset of menopause is included when calculating duration of use.

❑ Among women who were 10 or more years beyond menopause, 39% had ever used HRT in pill form[3] (data not shown).

❑ In this population:

- 24% took HRT pills for less than one year,
- 34% took HRT pills for 1-5 years,
- 6% took it for 6-9 years, and
- 37% took it at least 10 years.

❑ The sooner women start to take HRTs after menopause, the more likely they are to use for a longer period. For example, of the 56% of women who were 10 or more years beyond menopause and who started taking HRT either before or within 2 years of menopause, 50% took it for at least 10 years (data not shown).

Footnotes for this section:

[1] Since women can take more than one preparation, the sum of the different formulations will be greater than the percent of women using any formulation.

[2] While these methods of hormone administration are distinct, thet were combined into a single question in the NHANES III interview, and thus are reported together.

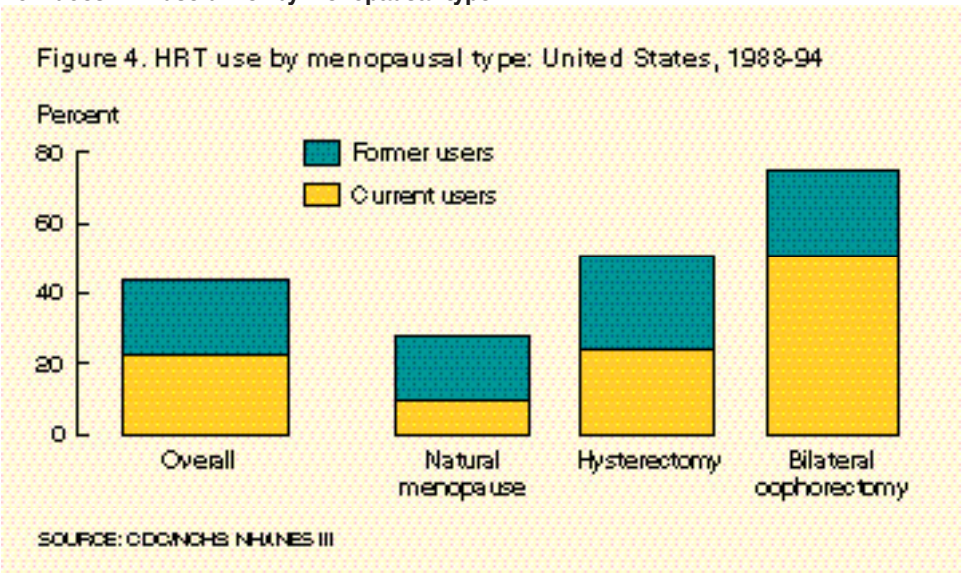
[3] Because the survey did not collect information on the exact dates when each different form of HRT was begun and stopped, we cannot differentiate women who has used several forms of hormones at the time and those who had used different forms at different times. Thus, we focus on pill use here, which was the form used by the majority of women.

Factors Associated with HRT Use

It is currently recommended that each individual woman should decide whether to use HRT after considering, in concert with her health care provider, such factors as family history of breast cancer, osteoporosis, heart disease, and the potential benefits of HRT against these diseases, as well as her willingness to accept the risks and side effects of HRT.

The charts in this section examine individual characteristics associated with HRT, including menopausal type, age, race and ethnicity, education, and income.

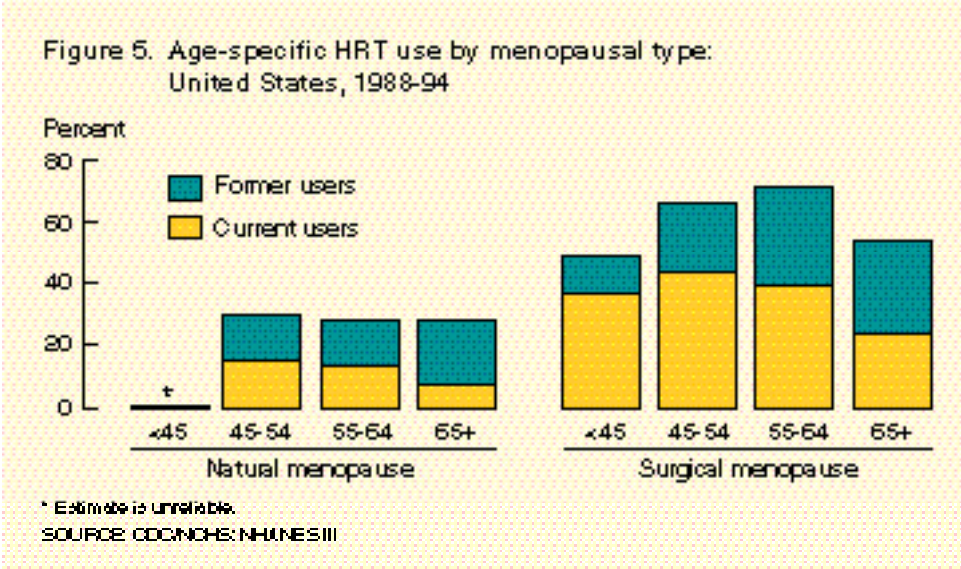
How does HRT use differ by menopausal type?



❑ Women with surgical menopause were much more likely to use HRT than women with natural menopause. Among women with surgical menopause, 75% of women who had both ovaries removed had used HRT at some time, while 50% of those with a hysterectomy only had ever used HRT. Only 30% of women with natural menopause had used HRT.

❑ Women with surgical menopause were not only more likely than women with natural menopause to have ever used HRT, but also were more likely to be current HRT users. Of those who had both ovaries removed, 50% were still using HRT (two thirds of the ever users). Of the women who had a hysterectomy but had at least one remaining ovary, 24% were still using HRT (one half of the ever users). Among naturally menopausal women, 11% were still using HRT (one-third of ever users).

How does a woman's age and menopausal status relate to her HRT use?



❑ Differences in the use of HRT by age were highly related to type of menopause.

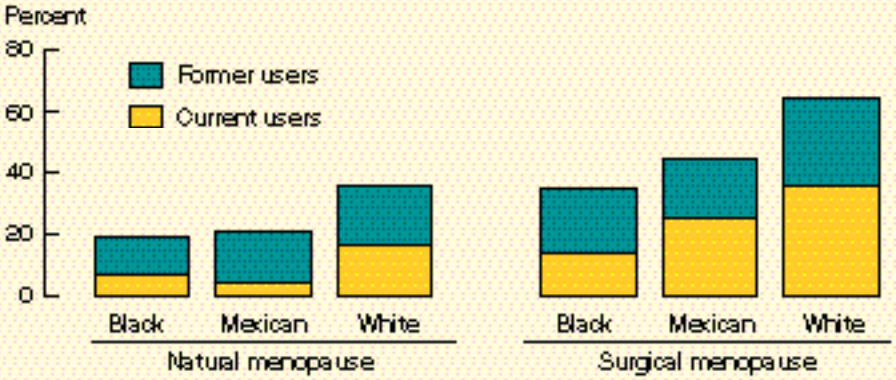
❑ Among women who had a natural menopause, there was almost no difference by age in ever use of HRT. Women 65 years of age and over were less likely to be currently using HRT than younger women, but they were more likely to have formerly used HRT.

❑ Among women who had undergone a surgical menopause, ever use increased with age until the oldest age group. Compared to women less than 45 years of age, women 45-54 were 34% more likely to have used HRT, and women 55-64 were 45% more likely to have used HRT. There was no significant difference in use of HRT among surgically menopausal women less than 45 years of age compared to women 65 years of age and over.

❑ Patterns in HRT use by age reflect women's age at menopause, their current age relative to their age at menopause, and the year during which they underwent menopause. It is not possible to discern which of these effects are influencing HRT use as seen in this chart.

Which racial and ethnic groups are more likely to use HRT?

Figure 6. Age-adjusted HRT use by race/ethnicity: United States, 1988-94



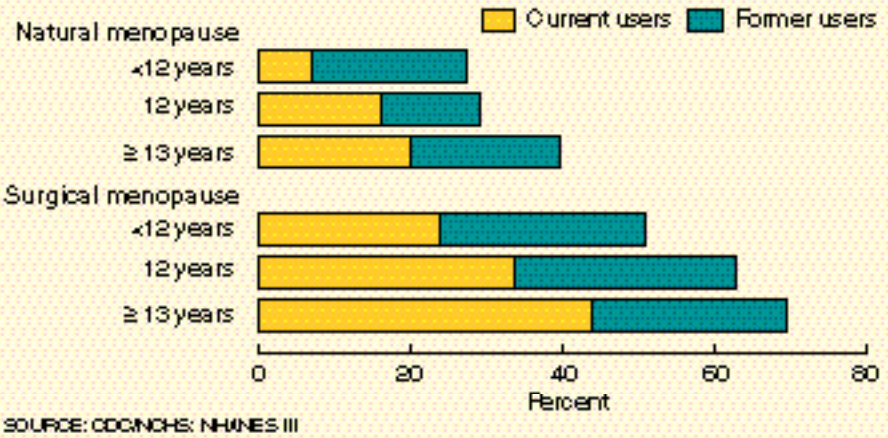
SOURCE: CDC/NCHS: NHANES III

❑ Non-Hispanic white women were more likely to have ever used HRT than non-Hispanic black or Mexican-American women, with the largest disparity between whites and blacks. HRT use for naturally menopausal white women was 80% higher than that for naturally menopausal blacks, and 69% higher than that for naturally menopausal Mexican-Americans. Surgically menopausal whites were 83% more likely than surgically menopausal blacks, and 46% more likely than surgically menopausal Mexican-Americans to have ever used HRT.

❑ Current use of HRT was also highest among non-Hispanic white women compared with either non-Hispanic blacks or Mexican-Americans. Naturally menopausal whites were 1.3 time more likely than naturally menopausal blacks, and 2.6 times more likely than naturally menopausal Mexican-Americans to be current HRT users. White women with surgical menopause was 1.6 times more likely than surgically menopausal blacks, and 43% more likely than surgical menopausal Mexican-Americans to be current HRT users.

How does a woman's educational level correlate with her HRT use?

Figure 7. Age-adjusted HRT use by years of education completed: United States, 1988-94



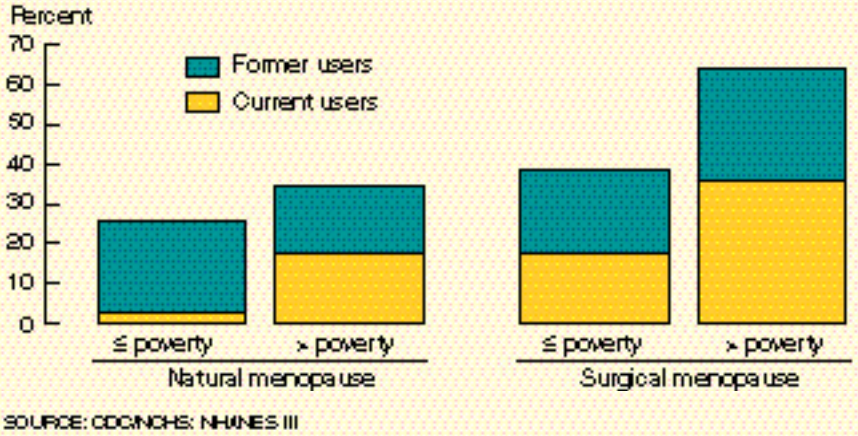
SOURCE: CDC/NCHS: NHANES III

❑ The more educated a menopausal woman, the more likely she was to have ever used HRT. HRT use for naturally menopausal women with beyond high school education was 35% higher than naturally menopausal women with 12 years education, and 44% higher than naturally menopausal women with fewer than 12 years of education. HRT use for surgically menopausal women with beyond high school education was 36% higher than surgically menopausal women with fewer than 12 years of education.

❑ Education was also related to current use of HRT, especially for women with natural menopause. Among naturally menopausal women, current HRT use for women with beyond high school education was 23% higher than that for women with high school education, and 180% higher than that for women with below a high school education. For women with surgical menopause, current HRT use for those with beyond high school education was 30% higher than for those with only a high school education and 83% higher than for those who had not completed high school.

How does HRT use relate to family income?

Figure 8. Age-adjusted HRT use by poverty level: United States, 1988-94



SOURCE: CDC/NCHS: NHANES III

❑ Menopausal women whose family income was above the poverty level were much more likely to have ever used HRT. Naturally menopausal women above the poverty level were 33% more likely to have ever used HRT than those living at or below the poverty level. Surgically menopausal women above the poverty level were 67% more likely to have ever used HRT than those living at or below poverty level.

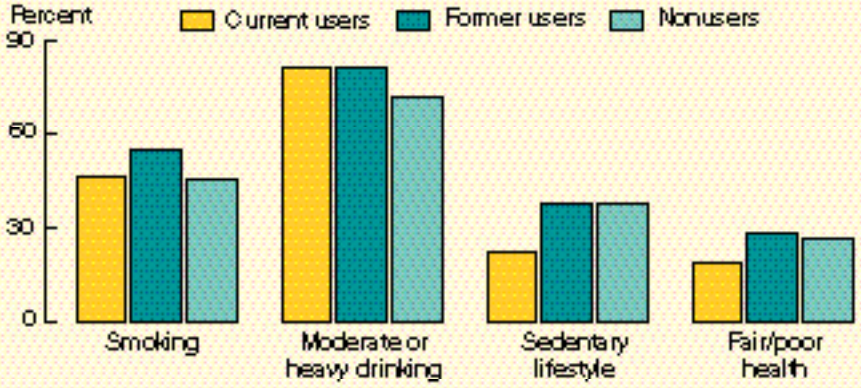
❑ Current HRT use was strongly correlated with income level. Naturally menopausal women above the poverty level were 4.5 times more likely to be current users than women below the poverty level. Surgically menopausal women above the poverty level were almost twice as likely to be current HRT users than those below the poverty level.

Characteristics of HRT Users

This section compares HRT users and never users on selected characteristics. The attributes analyzed are selected health risk behavior and perceived health status, and rates of hypertension, elevated cholesterol, and diabetes. The objective is to see whether HRT users have healthier lifestyles and better health.

Do HRT users have healthier lifestyles and better health than nonusers?

Figure 9. Age-adjusted risk behavior and health status among HRT users and nonusers: United States, 1988-94



SOURCE: CDC/NCHS: NHANES III

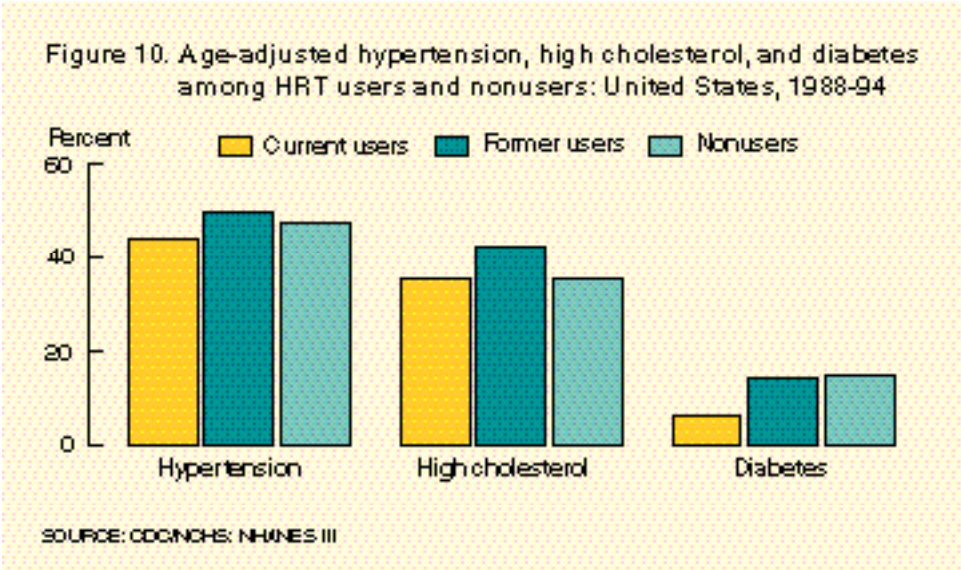
❑ Current HRT users were just as likely to be a current or former smoker as nonusers, but former HRT users (55%) were more likely to be current or former smokers than nonusers (46%).

❑ Both current (82%) and former users (82%) were more likely to reported moderate or heavy drinking than nonusers (72%).

❑ Current HRT users (22%) were less likely to report sedentary lifestyle than nonusers (37%), but past HRT users (38%) showed no difference from non-users.

❑ Current HRT users (19%) were less likely to report fair or poor health than nonusers (27%), but past users (28%) show no difference from nonusers in perceived health status.

How do HRT users and nonusers differ in their rates of hypertension, high cholesterol, and diabetes?



❑ HRT users and nonusers did not differ substantially in their rates of hypertension.

❑ Elevated serum cholesterol was more common among former HRT users (42%) than among current HRT users (35%) and nonusers (36%).

❑ Diabetes was more than twice as prevalent among former HRT users (14%) and nonusers (15%) as it was among current HRT users (6%).

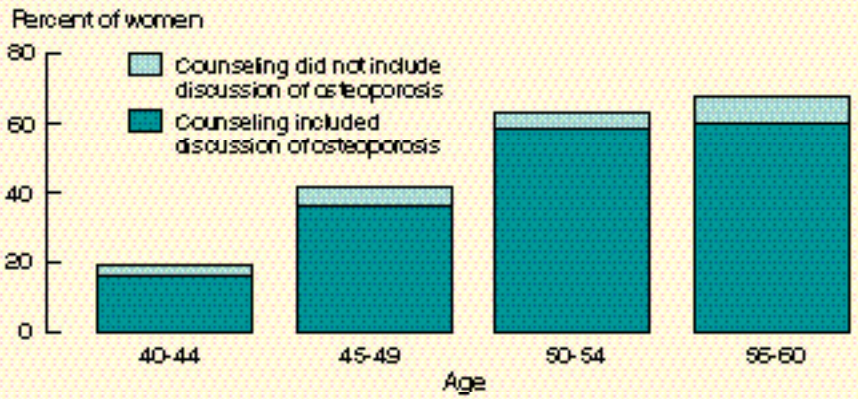
The Physician's Role in HRT Use

Many women receive information about HRT from their physicians. How and whether physicians discuss HRT with their patients is an important determinant of whether women use HRT.

In 1992, the American College of Physicians recommended that physicians discuss HRT with all women around the time of menopause. The first three figures in this section describe factors related to counseling among women 40-60 years of age, the years when menopause is most likely to occur. It is not limited to postmenopausal women, as that information was not available. These data were collected in the National Health Interview Survey from interviews with women rather than with their physicians. Therefore, responses of not receiving HRT counseling could mean women did not receive this counseling or it could mean that they did not remember being counseled.

How commonly and when do physicians counsel women about using HRT?

Figure 11. Receipt of physician counseling about HRT by age among women 40-60 years of age: United States, 1998



SOURCE: CDC/NCHS: NHIS

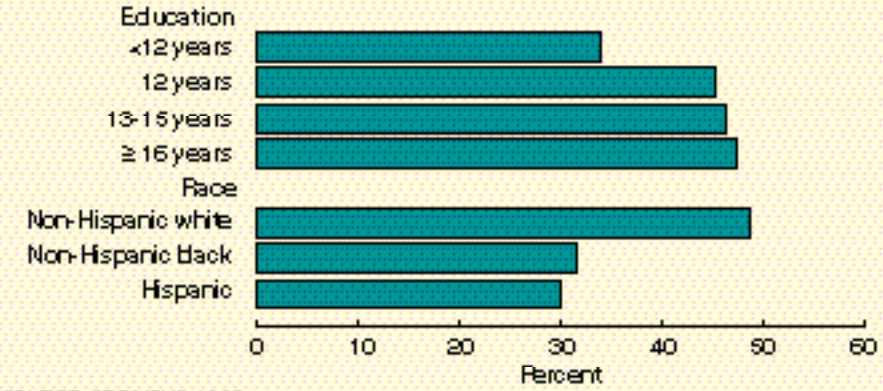
❑ In 1998, approximately 45% of women 40-60 years of age reported receiving counseling from a physician about the pros and cons associated with using HRT after menopause.

❑ Age was a factor in who received HRT counseling. Only 19% of women 40-44 had ever received physician counseling on HRT use, compared with 41% of women 45-49 years of age, 63% of women 50-54, and 67% of women 55-60.

❑ Information about preventing bone loss was included in a significant proportion of HRT counseling. Of the women who received HRT counseling, 89% had received information about the effect of HRT on bone loss during the counseling.

How does education, race, and ethnicity affect a woman's likelihood of receiving HRT counseling?

Figure 12. Receipt of physician counseling about HRT among women 40-60 years of age, by education and race/ethnicity: United States, 1998



SOURCE: CDC/NCHS: NHIS

❑ The higher a woman's educational level, the more likely she was to have been counseled about HRT. In 1998, 47% of women 40-60 years of age who had finished at least one year of college were counseled by a physician about using HRT after menopause. In contrast, among women with less than a high school education, only 34% were counseled about HRT.

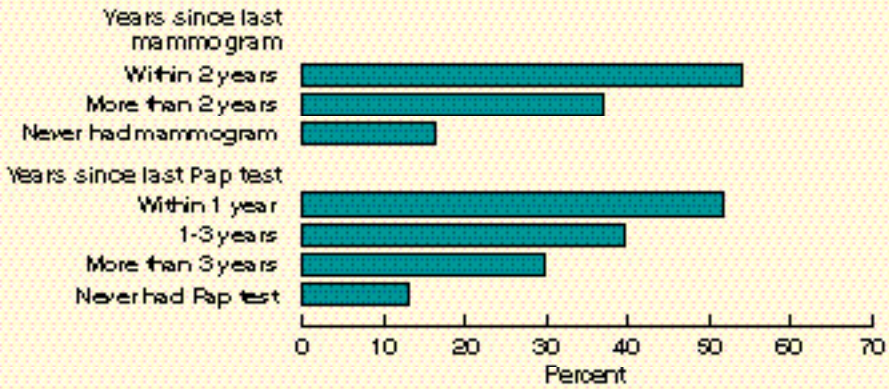
❑ Non-Hispanic white women were 54% more likely than non-Hispanic black women to receive HRT counseling at some point in the past. Non-Hispanic white women were also 62% more likely than Hispanic women to have received HRT counseling.

❑ The disparity of HRT physician counseling by race is consistent with findings in Figure 6 that race affects the probability of using HRT; white women are much more likely to take HRT than black women.

❑ Use of HRT varies by socioeconomic status, with the most educated and wealthiest women having the highest probability of use. The differences in HRT use by income and education may be due partly to differences in the information women receive from their physicians.

Are women who receive recent preventive treatments more likely to receive HRT counseling?

Figure 13. Receipt of physician counseling on HRT among women 40-60 years of age by length of time since selected preventive health services: United States, 1998



SOURCE: CDC/NCHS: NHIS

❑ Women 40-60 years of age who had received a mammogram within the last two years were 2.3 times more likely to have been counseled about HRT by a physician than women who had never had a mammogram and 45% time more likely to be counseled about HRT than women who had received a mammogram more than two years ago.

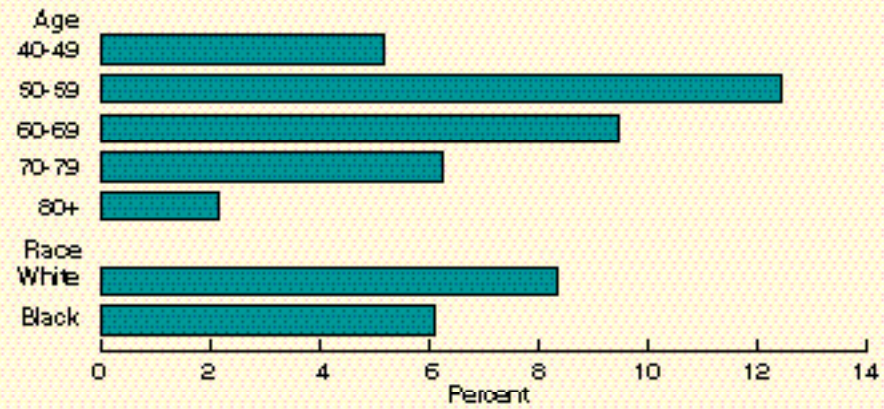
❑ A similar association was found between the time since the last Pap smear test and HRT counseling. Women who received a Pap test within the last year were almost 3 times more likely to have received HRT counseling than women who had never had a Pap test. Women whose last Pap test was 1-3 years ago were 2.0 times more likely and women who whose last test was more than 3 years prior were 1.3 times more likely to have received HRT counseling than women who had never had a Pap test.

Another way to look at national HRT use patterns is to investigate the proportion of medical care visits during which HRT is ordered, administered, or provided by the physician. Such an analysis does not measure use, but does describe the types of visits associated with HRT prescriptions and the types of physicians who are more likely to prescribe HRT.

In the following two figures, the unit of analysis is the physician visit rather than the woman. A woman may have more than one visit to a physician or may visit more than one physician. The analysis can only tell what proportion of total visits will include HRT prescriptions. Women 40 years of age and over are included.

What proportion of of œ or clinic visits include HRT prescriptions, by patient's age and race?

Figure 14. Percent of ambulatory medical care visits with mentions of HRT by age and race: United States, 1997-98



SOURCE: CDC/NCHS: NAMCS and NHAMCS

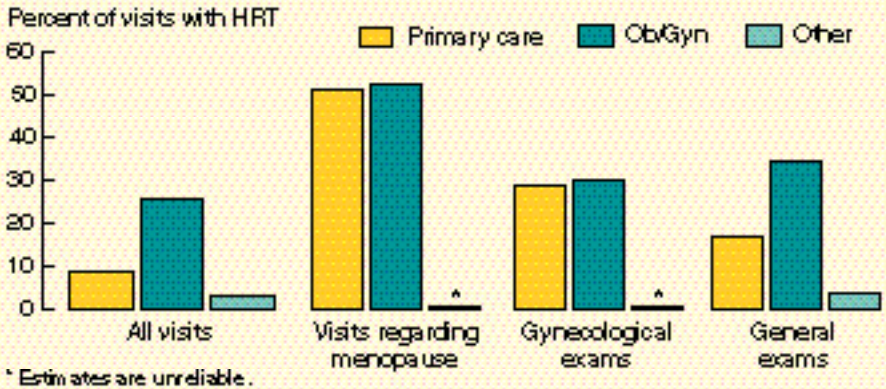
❑ Overall, 7.5% of all visits by women 40 years of age and over to office-based physicians and hospital out-patient departments included a prescription for HRT.

❑ The proportion of physician or clinic visits that included an HRT prescription was strongly associated with age. About 5% of all visits by women 40-49 years of age included HRT prescriptions, while 12% of visits by women 50-59 years of age and 9% of visits by women 60-69 years of age included an HRT prescription. Only 2% of all visits by women 80 years of age and over included an HRT prescription.

❑ Visits to physicians and hospital outpatient clinics by white women were 40% more like to include an HRT prescription as visits by black women, after age-adjustment.

What proportion of of œ or clinic visits include HRT prescriptions, by type of physician and reason for visit?

Figure 15. Proportion of ambulatory medical care visits with mentions of HRT by practice type and reason for visit: United States, 1997-98



❑ Physician or clinic specialty was strongly associated with whether HRT was prescribed. Visits by women 40 years of age and over to obstetric and gynecology physicians and clinics were 1.9 times more likely to include an HRT prescription than visits to primary care physicians and clinics.

❑ Only 8.8% of visits to primary care physicians and clinics (general, family, and internal medicine) included an HRT prescription, compared with 25.6% of visits to obstetrics/gynecology physicians and clinics, and 2.7% of visits to all other types of physicians and clinics (e.g., surgery and cardiology).

❑ Although visits to primary care physicians and clinics were less likely to include an HRT prescription than visits to obstetric or gynecology physicians and clinics, visits to primary care physicians and clinics accounted for 57% of all visits in which HRT was prescribed. This is because primary care physicians and clinics accounted for a much larger total number of visits than did obstetrician and gynecologist physicians and clinics.

❑ HRT was more likely to be prescribed during visits that were initiated by the patient at least partly because of menopausal complaints or that involved a diagnosis of menopausal or post-menopausal symptoms. Just over one half of all such visits to primary care physicians and obstetric/gynecology specialists and clinics included HRT prescriptions.

Technical Notes

Sources of data

National Health and Nutrition Examination Survey (NHANES III)

The third National Health and Nutrition Examination Survey (NHANES III) was a cross-sectional survey conducted between 1988 and 1994 by the National Center for Health Statistics. It selected a representative sample of the non-institutionalized U.S. population ages 2 months and older. The data were collected through both face-to-face interviews and standardized physical examinations. Mexican Americans, African Americans, and persons 60 years of age and older were over sampled to provide more reliable estimates for these subpopulations. NHANES III collected information from women aged 17 years and older on use of non-contraceptive female hormones without differentiating whether the hormones contained estrogen or progesterone. The response rate for the questionnaire in which HRT information was collected was 78%.

Information on women's use of HRT began to be collected again in NHANES 1999. The questions included in the new survey will provide more detail regarding the formulation used and the time of initiation. This data will not be available for publication until at least 2003, due to precision considerations.

For more information on the NHANES

National Health Interview Survey (NHIS)

The National Health Interview Survey (NHIS) is a continuing nationwide sample survey in which data are collected through personal household interviews. Information is obtained on personal and demographic characteristics including race and ethnicity by self-report or as reported by an informant. Information on HRT was obtained in a special section regarding health prevention in adults included during the 1998 calendar year.

The response rate for household selected to participate in the 1998 NHIS was 90%. When taking into account the household and sampled adult nonresponse rate, the actual response rate to the prevention supplement was 72.8%.

For more information regarding the NHIS survey, see http://www.cdc.gov/nchs/

National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey (NAMCS) and (NHAMCS)

The National Ambulatory Medical Care Survey (NAMCS) is a continuing national probability sample of ambulatory medical encounters. The scope of the survey covers physician-patient encounters in the offices of non-Federally employed physicians classified by the American Medical Association or American Osteopathic Association as "office-based, patient care" physicians. Telephone contacts and non-office visits are excluded, as are visits to specialists in anesthesiology, pathology, and radiology, and visits to physicians who are principally engaged in teaching, research, or administration. The response rate by physicians completing this survey in 1997 and 1998 was 67%.

The National Hospital Ambulatory Medical Care Survey (NHAMCS) is a continuing annual national probability sample of visits by patients to emergency departments and outpatient departments of non-Federal, short-stay, or general hospitals. Telephone contacts are excluded. Due to the nature of the analysis included in this chartbook, only the information from the out-patient department section was included. The response rate in 1997 and 1998 was 95%.

For more information on the NAMCS and NHAMCS see

De nition of terms used in this chartbook

Age adjustment: Age adjustment is the application of age-specific rates in a population of interest to a standardized age distribution in order to eliminate differences in observed rates that result from age differences in population composition. This adjustment is done when comparing two or more populations. In this chartbook, the data are standardized to the population of post-menopausal women in the NHANES III survey.

Cholesterol: High cholesterol level was defined as serum cholesterol greater than or equal to 240 mg/dl measured during the NHANES examination.

Diabetes: Diabetes was measured by self-reported physician's diagnosis of diabetes, excluding gestational diabetes for women.

Drinking: A moderate or heavy drinker refers to someone who has one or more drinks per day.

HRT: Hormone replacement therapy.

Current HRT use: Use of HRT reported by a respondent at the time she was interviewed.

Ever HRT use: Use of any form of HRT reported by a respondent at any time, regardless of whether the woman was still using it currently at the time of her interview or had discontinued use.

HRT prescription: The response by physicians on the NAMCS and NHAMCS survey that a hormonal agent that contained estrogen, whose formulation was to be primarily used for menopausal symptoms, had been prescribed. Generic as well as brand-name drugs were included.

HRT use: The questions used in the NHANES III interview asked women aged 17 years and older about use of any non-contraceptive female hormones in form of 1) pills, 2) virginal cream, suppository or injection, and 3) skin patches, without differentiating whether the hormones contained estrogen or progesterone. In order to avoid inclusion of drugs such as female hormones used for infertility, we only included women who were likely to be taking HRT. While this would be all women who were perimenopausal or postmenopausal, we did not have the laboratory tests or very specific questionnaire wording needed to differentiate pre-menopausal women from peri-menopausal women. Thus, the analysis was limited to postmenopausal women.

Previous HRT use: Use of HRT reported by a respondent that she had discontinued by the time she was interviewed.

Health Status: Self-reported health status was measured using the following question: "Would you say your health in general is excellent, very good, good, fair, or poor?"

Hypertension: High blood pressure, defined by self-report of physician's diagnosis or use of antihypertensive medication, or elevated systolic (>140 mm Hg) or diastolic blood pressure (> 90 mm Hg) measured during NHANES examinations.

Menopause: The cessation of menstrual periods.

Age of menopause: For naturally menopausal women, the age when they had their last menstrual period. For surgically menopausal women, the age when they had their uterus or both ovaries removed.

Natural menopause: Regular menstrual periods had stopped for 12 or more months without surgical or medical reasons.

Peri-menopausal: The term describing a woman who is having symptoms of menopause, such as irregular menstrual periods, but has had a period within 12 months.

Post-menopausal: The term describing a woman who is either naturally or surgically menopausal.

Surgical menopause: Regular menstrual periods had stopped because of either --

Hysterectomy: the removal of the uterus; or

Bilateral oophorectomy: removal of both ovaries.

Poverty status: A measure of whether a woman's annual family income was at, below, or above the

Hormone Replacement Therapy: Knowledge and Use in the United States

Centers for Disease Control and Prevention
National Center for Health Statistics
National Institutes of Health
Office of Research on Women's Health

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