A Three-Part Intervention To Change the Use of Hormone Replacement Therapy in Response to New Evidence

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Background: Slow adaptation of new information by providers may result in suboptimal care.

Objective: To evaluate changes in prescriptions for combination hormone replacement therapy (HRT) after a multicomponent intervention to deliver new information to patients and providers.

Design: Quasi-experimental study with multiple baselines.


Patients: Female veterans age 50 to 79 years who had a prescription filled at the VA-TVHS for combination HRT between 1 January 2002 and 1 July 2002.

Measurements: Discontinuation of HRT.

Intervention: A 3-part intervention consisted of 1) notifying patients who were using combination HRT of the results of the Women's Health Initiative study (patient education component), 2) sending all providers an e-mail with the Women’s Health Initiative study results (provider education component), and 3) placing an electronic alert in each eligible patient's chart (provider care component). The alert asked providers to reevaluate the need for combination HRT. The intervention was implemented at different VA-TVHS sites in a stepwise fashion to differentiate intervention effect from media effect. Study follow-up continued through 31 December 2002.

Results: The total rate of discontinuation of combination HRT was 70.3% in 2002. The proportion of discontinuation from time of media release until intervention was 23.3%. After initiation of the intervention, an additional 43% of the original cohort discontinued use of HRT; this percentage represents a 59% relative decrease in HRT use among patients. After adjustment for time, the discontinuation rate per day was 4.9 times higher after the multifaceted intervention than after the media release (95% CI, 1.8 to 13.1).

Limitations: A true control group is lacking.

Conclusion: A multifaceted approach in an integrated health care system with standardized methods of communication is an effective way to implement patient-centered, effective, and timely care with changing medical knowledge.


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The Women's Health Initiative (WHI), a large National Institutes of Health–sponsored primary prevention trial of combination hormone replacement therapy (HRT), was stopped early because the overall risk outweighed the benefits (1). The risks included nonfatal myocardial infarction and coronary deaths, which combined were the study’s primary end point. The results of other recent randomized, placebo-controlled trials have also called into question the benefits of HRT (1–8). On the basis of this evidence, several organizations have now changed their recommendations on the use of combination HRT (9–13). For example, in November 2002, the U.S. Preventive Health Services Task Force recommended against prescribing combination HRT to prevent disease (14, 15).

Changes in the recommendations for HRT use represent a small fraction of an escalating amount of information that providers must process and put into practice. New clinical knowledge, such as revised recommendations for HRT use, requires providers to change their behavior (16, 17). Consensus guidelines, continuing medical education, and reminders are common, albeit marginally effective, strategies used to influence behavior (18–27). Additional strategies, such as formulary changes, can be perceived as institutional control mechanisms and, therefore, may be resisted by providers (28, 29). Strategies for change often fail because they do not consider patient or provider preferences, provider time burden, delays introduced by waiting until the patient’s next office visit, and perceptions that the change may stifle the patient–provider relationship (30–36).

We sought to address some of the gaps in the current array of interventions for integrating new clinical knowledge into daily practice by developing an approach that is timely, patient-centered, and effective (30, 37, 38). Our goal was to inform both patients and providers about the risks and benefits of HRT and to facilitate an interaction by which that information could be applied without interfering in the provider–patient relationship.

METHODS

Setting

The Veterans Health Administration nationwide is composed of 23 Veterans Integrated Service Networks. Each network comprises hospitals, ambulatory facilities, and community-based outpatient centers. In Veterans Integrated Service Network 9, located in the mid-south and including the states of Kentucky and Tennessee, there...
are more than 1 million veterans, including approximately 65,000 women. Almost half of these female veterans are older than 45 years of age (Alvarez V. Personal communication). Of the 6 health care systems in the Veterans Integrated Service Network 9, the Veterans Affairs Tennessee Valley Healthcare System (VA-TVHS), a convenience sample, was selected to be the intervention group. The VA-TVHS comprises 2 teaching hospitals and 8 community-based outpatient centers. The VA-TVHS offers outpatient primary, secondary, and tertiary care to more than 150,000 veterans who are predominantly in middle Tennessee. Ambulatory care, including women’s health care, is provided at all of the sites. In 2002, 2576 female veterans older than 45 years of age enrolled for care within the VA-TVHS (Alvarez V. Personal communication).

**Study Design**

This quality improvement project used a prospective, quasi-experimental intervention design. All female veterans using combination HRT and their providers were notified of the WHI study results in a staggered fashion. The study intervention was implemented at 3 sites; start times were separated by 2 weeks (Figure 1).

Given the media coverage surrounding the WHI study, this design was chosen to account for the secular trends that may have affected rates of HRT discontinuation (39). The WHI study results appeared in the 17 July 2002 issue of the *Journal of the American Medical Association* but were released to the press 1 week earlier. The WHI study results also appeared in the 10 July 2002 edition of *The New York Times* and other national and local papers.

The Nashville Veterans Affairs Medical Center was the first site for intervention, which began on 1 September 2002. At that point, the other 2 sites, which were exposed only to the media information on HRT, continued current care. The study intervention was replicated for all patients and providers at the community-based outpatient centers on 16 September 2002 and at the Alvin C. York Veterans Affairs Medical Center on 30 September and 1 October 2002. This staggered design was implemented to allow for concurrent comparison with usual care until the final group of the cohort underwent the intervention.

**Patient Identification**

We identified female veterans with a prescription filled for combination HRT by using the VA-TVHS pharmacy database. The pharmacy collects prescribing information in a relational database. This information is downloaded each month from the Veterans Affairs mainframe computer by a pharmacy supervisor. Search terms were Prempro (Wyeth-Ayerst, Philadelphia, Pennsylvania), Premphase (Wyeth-
Intervention

Before implementing the intervention, leadership within the quality improvement, pharmacy, and primary care departments discussed and agreed on the design of the intervention. The intervention had 3 components: Two focused on education (targeting patient and provider) and 1 integrated new information with patient care. The provider education component ensured that all of the prescribing providers received information about the WHI study (Appendix Figure 1, available at www.annals.org). This involved sending an e-mail message from the chief of pharmacy services and the medical director of the Pharmacy and Therapeutics Committee to all clinical chiefs explaining the planned intervention. Each clinical chief disseminated the e-mail to practitioners within their division. The e-mail also included an electronic link to the WHI study (http://jama.ama-assn.org/cgi/reprint/288/3/321.pdf) (1).

The patient education component of the intervention involved sending a personalized letter from the TVHS pharmacy to current users of combination HRT. This letter was signed by the medical director of the Pharmacy and Therapeutics Committee (Appendix Figure 2, available at www.annals.org). The letter reported that WHI study participants taking combination HRT had higher risks for disease, including “a slight increase in the chance of developing breast cancer, a trend toward more heart attacks and strokes, and more likely to have blood clots in their veins.” The letter acknowledged benefits of combination HRT for relief of menopausal symptoms in many women and emphasized that, “We recommend that patients and providers review the risks and benefits of HRT therapy on a personal basis.”

A “pharmacy alert” was placed in the electronic chart of each patient identified to be using combination HRT in order to facilitate a timely conversation between the patient and the provider. This component served to overcome a common barrier to action: the need for the provider to identify all of the patients affected by new information. The pharmacy alert was an electronic notification that was sent, by the pharmacy, to the prescribing provider via each patient’s electronic medical record. It contained a summary of the WHI study results and provided an electronic link to the WHI study as a reinforcement of the educational component. The Veterans Affairs network uses a computerized patient record system that allows for real-time processing of information. Each time that providers would sign on to a computer, any medical record that contained an electronic alert would be brought to their attention. The pharmacy alert asked the provider to reevaluate the need for combination HRT and generate an addendum to this alert. The addendum gave the provider several options for action, including continuation or discontinuation of combination HRT at the current time or at some point in the future (Appendix Figure 3, available at www.annals.org).

Measurement

The primary outcome measure was the percentage of female veterans using combination HRT at the beginning of the study who discontinued this therapy. The measure of discontinuation was assessed through 2 steps. First, if the primary provider, in response to the chart alert, recorded the discontinuation order, then the date that the order was entered could be ascertained by reviewing the addendum to the pharmacy alert. When an addendum to the original note is generated, the results of that addendum automatically return to the original author of the pharmacy alert, allowing for collection of responses. Second, we reviewed charts at study completion to confirm whether combination HRT was discontinued. We also confirmed the date the discontinuation order was placed in the patient’s electronic medical record.

Upon completion of the study, we repeated the initial search strategy in the pharmacy database to ascertain whether patients who had discontinued combination HRT reinitiated this therapy. The covariates of race and Charlson comorbidity score (40) were obtained through baseline chart review. One investigator reviewed the charts and calculated comorbidity scores from active problem lists kept in the patient’s electronic medical record. Race was determined through patient self-identified demographic information. Covariates including age, sex, prescribing provider’s division, and type of provider (staff physician, resident, or nurse practitioner) were collected through the pharmacy database.

Statistical Analysis

We calculated discontinuation rates for baseline, media release, and intervention periods by using as a denominator the number of people at risk for discontinuation at that time period. For example, the discontinuation rate shown was used to evaluate the overall trend for discontinuation contributed by the intervention.

We conducted an exploratory analysis by using the Student t-test and chi-square test to examine the effect of comorbid disease, demographic characteristics, and provider type on the outcome of discontinuation. All de-identified data within the data set were analyzed by using Cox proportional hazards with discrete time-varying covariates. This model assessed the association among explanatory variables (including the chart alert, Charlson comorbidity score, demographic variables, and provider type) with the outcome of discontinuation while adjusting for time. The model adjusted for the staggered implementation of the intervention and maintained a concurrent comparator.
The mean age of female veterans in the initial TVHS cohort (Table 1) was 57 years. The cohort was primarily white (94.4%) and relatively healthy. Most of the cohort (48 of 91 [53%]) had a Charlson comorbidity score of 0. This finding reflects a sample that is free of diabetes, heart disease, malignant conditions, chronic pulmonary disease, connective tissue disease, cerebrovascular disease, peripheral vascular disease, renal disease, and liver disease. More than 80% of the patients received care in 1 of the 2 hospital-based clinics. The remaining 20% of the cohort was seen in 1 of the 8 community-based outpatient centers. A midlevel provider (nurse practitioner or physician assistant) cared for 42% of the patients; the remainder received care from a staff physician or resident physician. Patient characteristics (age, Charlson comorbidity score, race, and provider) did not differ between women who discontinued HRT and those who continued the therapy (Table 1).

**Responder and Response Characteristics**

We received 69 responses (75.8%) to 91 alerts placed in patients’ charts. Twelve nurse practitioners and physician assistants responded to the alert for 34 of 39 (87.2% [95% CI, 77% to 91%]) of their patients, 18 staff physicians responded for 27 of 36 (75% [CI, 67% to 85%]) of their patients, and 13 resident physicians responded for 8 of 16 (50% [CI, 36% to 66%]) of their patients. Providers selected option 1 (spoke to the patient who wishes to continue using combination HRT [Appendix Figure 3, available at www.annals.org]) for 44.8% of the responses (9%). Providers selected option 2 (spoke to the patient who wishes to discontinue combination HRT [Appendix Figure 3]) for 31 of the 69 responses (44.8%). Providers selected option 3 (continue combination HRT and speak to the patient later [Appendix Figure 3]) for 21 of the 69 responses (44.8%). Providers selected option 4 (discontinue combination HRT now and speak to the patient later [Appendix Figure 3]) for 4 of the 69 responses (5.8%). For the remaining 6 responses (9%), providers selected option 5 (the patient is not in their practice [Appendix Figure 3]), and the alert was then forwarded to the appropriate provider (4 patients). Of the 4 forwarded alerts, providers reported that 1 patient chose to continue HRT and 3 discontinued HRT. An appropriate provider could not be identified for the remaining 2 patients.

**Discontinuation Rates in the VA-TVHS**

The total rate of discontinuation for 2002 in the VA-TVHS was 70.3% (64 of 91 patients). Five of the 91 patients (5.5%) discontinued using combination HRT between 1 January and 9 July 2002, before the WHI media release. After the media release and before the initiation of

* CBOC = community-based outpatient center; HRT = hormone replacement therapy.

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**Table 1.** Characteristics of the Tennessee Valley Healthcare System Cohort*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total Patients (n = 91)</th>
<th>Patients Who Continued HRT (n = 27)</th>
<th>Patients Who Discontinued HRT (n = 64)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Race, n (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>84 (94.4)</td>
<td>23 (85.2)</td>
<td>61 (95.3)</td>
<td>&gt;0.2</td>
</tr>
<tr>
<td>African American</td>
<td>5 (5.6)</td>
<td>2 (7.4)</td>
<td>3 (4.7)</td>
<td></td>
</tr>
<tr>
<td>Unavailable</td>
<td>2 (0.02)</td>
<td>2 (7.4)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Charlson comorbidity score (range, 1–6), n (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–1</td>
<td>70 (76.9)</td>
<td>20 (74.1)</td>
<td>50 (78.1)</td>
<td>&gt;0.2</td>
</tr>
<tr>
<td>2–3</td>
<td>17 (18.7)</td>
<td>7 (25.9)</td>
<td>10 (15.6)</td>
<td></td>
</tr>
<tr>
<td>&gt;4</td>
<td>4 (4.4)</td>
<td>0</td>
<td>4 (6.3)</td>
<td></td>
</tr>
<tr>
<td><strong>Site of care, n (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nashville Medical Center</td>
<td>33 (36.2)</td>
<td>10 (37.1)</td>
<td>23 (36.0)</td>
<td>&gt;0.2</td>
</tr>
<tr>
<td>CBOCs</td>
<td>18 (19.9)</td>
<td>8 (29.6)</td>
<td>10 (15.6)</td>
<td></td>
</tr>
<tr>
<td>Alvin C. York Medical Center</td>
<td>40 (43.9)</td>
<td>9 (33.3)</td>
<td>31 (48.4)</td>
<td></td>
</tr>
<tr>
<td><strong>Provider, n (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff physician</td>
<td>36 (39.6)</td>
<td>11 (40.7)</td>
<td>25 (39.1)</td>
<td>&gt;0.2</td>
</tr>
<tr>
<td>Resident physician</td>
<td>16 (17.6)</td>
<td>6 (22.3)</td>
<td>10 (15.6)</td>
<td></td>
</tr>
<tr>
<td>Nurse practitioner or physician assistant</td>
<td>39 (42.8)</td>
<td>10 (37.0)</td>
<td>29 (45.3)</td>
<td></td>
</tr>
</tbody>
</table>
Table 2. Discontinuation of Hormone Replacement Therapy by Site of Care over Time*

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Total Patients (n = 91)</th>
<th>Nashville Patients (n = 33)</th>
<th>CBOC Patients (n = 18)</th>
<th>ACY Patients (n = 40)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discontinuation of HRT at baseline, n/n (%)†</td>
<td>5/91 (5.5)</td>
<td>0/33 (0)</td>
<td>1/18 (5.5)</td>
<td>4/40 (10)</td>
</tr>
<tr>
<td>Discontinuation of HRT after media release of WHI study results, n/n (%) [95% CI]‡</td>
<td>20/86 (23.3 [15–34])</td>
<td>6/33 (18.2 [5–31])</td>
<td>3/17 (17.6 [7–47])</td>
<td>11/36 (30.5 [17–49])</td>
</tr>
<tr>
<td>Discontinuation of HRT after intervention, n/n (%) [95% CI]§</td>
<td>39/66 (59.1 [46–71])</td>
<td>17/27 (63.0 [44–81])</td>
<td>6/14 (42.9 [18–71])</td>
<td>16/25 (64.0 [41–81])</td>
</tr>
</tbody>
</table>

* ACY = Alvin C. York Medical Center; CBOC = community-based outpatient center; HRT = hormone replacement therapy; WHI = Women’s Health Initiative.
† Base rate of HRT discontinuation before media release of WHI study results.
‡ For all entries in the time period, the denominator changes because the number of patients who have active prescriptions for HRT changes.
§ The intervention period ranged from time zero (intervention) to 134 days after the intervention was instituted. We used survival analysis (Cox proportional hazards model with discrete time-varying covariates) and Kaplan–Meier estimates to account for the time variation that each patient spent as a control. These analyses showed that the discontinuation rate per day was 4.9 times higher after the intervention than it was after the media release (CI, 1.8 to 13.1 [P = 0.002]) (Figure 2). A multivariate model that simultaneously adjusted for age, race, Charlson comorbidity score, and type of provider yielded results similar to the unadjusted model.

At the completion of the study, the HRT drug query was repeated in the VA-TVHS pharmacy database. No

Figure 2. Discontinuation of hormone replacement therapy (HRT).
new prescriptions for HRT were initiated after 10 July 2002, the media release date. None of the patients in the cohort who had discontinued combination HRT reinitiated the therapy.

**DISCUSSION**

Our providers were 4.9 times more likely to discontinue combination HRT use after the institution of the multifaceted intervention than after release of the WHI study results to the media. The intervention consisted of a 3-faceted approach that was implemented without an attempt to discern the relative contribution of each element. Changes in organizational structures that are directed at several layers within the system and that promote communication may be the most effective in producing desired results. Davis and colleagues have noted that multifaceted interventions are more effective than single interventions (19). By establishing a 2-way communication pathway between opinion leaders, frontline providers, and patients, knowledge can be efficiently transferred to those who are most likely to implement and benefit from it (41, 42). This communication enhances patient-centered and timely care, thereby fulfilling 2 of the 6 Institute of Medicine domains of health care quality (43).

Our results are comparable to those of Bero and colleagues, Revere and colleagues, and Oxman and colleagues (18, 44, 45), who conducted systematic reviews of computerized decision support systems. Their results demonstrated that computerized support leads to improved physician performance in selecting drug dosages, providing preventive care, and managing patients in general (46). Although computerized reminders have effectively improved patient care (47–49), they work only when integrated into the existing system. In addition, they remain highly dependent on an office-based interaction with the patient.

Institutional control mechanisms are often seen as diminishing patient and provider autonomy (27, 29). We attempted to empower providers to address changes in a patient’s medication without waiting for the patient to come to the office. Often, medications and changes can be discussed during a telephone conversation (50). This approach can allow busy providers, who want to maintain the provider–patient relationship, to share new medical knowledge with their patients and make necessary adjustments.

The response to the alert differed by provider type. Resident physicians had the lowest response rates. Response rates did not differ significantly between midlevel providers and staff physicians. When responses from the residents were compared with those of either midlevel providers or staff physicians alone, the difference was significant ($P < 0.002$). Care delivered by residents may be fragmented because many residents typically conduct primary care clinic 1 afternoon a week. Many studies have compared resident to staff physicians regarding patient counseling and behavioral change interventions (51–57). Resident physicians lagged behind physicians in their ability to counsel patients effectively (53, 55). Resident education is a setting that requires feedback from supervisors, especially as it relates to patient care and counseling (58, 59). The investigators did not explore why knowledge integration differed at various levels of training.

Limitations of a time series study include confounding by secular trends and learning effects. We recognized that a secular trend, that is, the media effect, would influence the information that patients would obtain and consequently affect the rate of discontinuation of combination HRT. We minimized secular trends as an alternative explanation by using a study design of staggered intervention and analysis with time-dependent covariates. Familiarity with the alert by a few providers who practice at more than 1 site within the VA-TVHS may have contributed to increased discontinuation of combination HRT among patients who had not yet received the intervention. This contamination effect, however, would have biased our results to the null. Although the study design had multiple baselines, which accounted for secular trends, a true control group for comparison would have better determined the effect of the intervention. In addition, anecdotal feedback about provider satisfaction with this intervention has been positive; however, we did not systematically assess provider or patient satisfaction. Finally, generalizability of our study is limited by our use of organizational structures that have computerized patient record systems and electronic alert messaging systems.

Although we did not undertake a formal cost analysis, we did assess the resources used to conduct the intervention. The intervention required time for implementation by 2 persons, the outpatient pharmacy supervisor and a physician trained in quality improvement. The outpatient pharmacy supervisor spent 10 hours performing searches in the relational database and using the mail merge to link patient names and addresses into the personalized patient education letter. The physician trained in quality improvement spent approximately 20 hours designing the patient and provider education letters and the chart alert, placing alerts in patient charts, and collecting responses. Given the stepwise deployment of the study design, these 20 hours spanned a 12-week period.

A systems-based approach to the complex problems associated with the changing evidence about medications can help eliminate delays in patient care and disseminate new clinical knowledge in an effective and timely manner (60, 61). A common challenge to health care systems is to develop strategies to inform and educate rather than enforce medical decisions (50). Telling the provider what to do is unlikely to achieve learning or improve the quality of care provided to the patient (62). Most successful strategies reduce complexity for the provider and optimize information processing (63–65). To integrate knowledge into practice, the practitioner must move from awareness of the
new guidelines to agreement, adoption, and adherence to new clinical information (66).

Using real-time care instead of waiting for an office-based interaction, our patients and providers are notified of the expanding body of medical knowledge in a timely fashion. Through our intervention, we have moved beyond information delivery to implementation of improved medication prescribing. We have changed behaviors associated with combination HRT and empowered providers and patients to act upon the most current medical information in a timely fashion. This approach illustrates a successful response to a common challenge (30) and may serve as a model for responding to new knowledge in other health care systems.

From Veterans Administration Tennessee Valley Healthcare System and Vanderbilt University, Nashville, Tennessee.

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Intervention To Change HRT Use | IMPROVING PATIENT CARE


Appendix Figure 1. Provider education e-mail.

Dear Provider,

As you are probably aware, the large federally funded Women's Health Initiative (WHI) recently stopped an arm of a study involving 16,000 patients taking hormone replacement therapy (HRT) with daily conjugated estrogen and medroxyprogesterone. They promptly informed these patients by letter to stop taking their medication. "The trial was stopped early based on health risks that exceeded benefits over an average follow-up of 5.2 years." We have attached a copy of this article for your review http://jama.ama-assn.org/cgi/reprint/288/3/371.pdf.

These findings have been a media focus over the last few weeks generating a large number of questions and concerns by our women veterans. We believe that this is an important topic for women veterans to discuss with their primary care provider and appreciate that many of you may have already taken action.

Providers who have outpatients on combination HRT will receive an alert in the computerized patient record system with the request to re-evaluate the need for this medication. In addition, a letter will be sent to every patient in the Tennessee Valley Healthcare System on daily combination estrogen and progesterone explaining the findings of this new study. They have been encouraged to contact their providers with questions regarding the continued use of combination HRT.

Given the significance of these new findings, the pharmacy is attempting to identify current patients, educate, and design a system for future prescribing of combination HRT. We thank you for your cooperation and appreciate your care for our women veterans.

Sincerely,

Joseph Awad, M.D.
Medical Director, Pharmacy and Therapeutics Committee

Appendix Figure 2. Patient education letter.

Information for Patients on Combination Hormone Replacement Therapy (HRT)

Dear Ms. XXXX,

We are sending you this letter to inform you of recent medical information about the use of combination hormone replacement therapy (HRT). Our records reveal that you are currently receiving a combination of estrogen and medroxyprogesterone. If you have stopped taking these medications, then disregard this letter.

A federally funded study using daily combination HRT (estrogen and medroxyprogesterone) in women after menopause was recently stopped because of an unexpected finding: The chance of harm from combination hormone replacement therapy appeared to be greater than its possible benefits. In this study, more than 16,000 women took either HRT or placebo (sugar pill). Those who took HRT had:

- slight increase in the chance of developing breast cancer
- a trend toward more heart attacks and strokes
- more likely to have blood clots in their veins

This is concerning because it used to be thought that hormones might prevent these problems. There was, however, a slight decrease in the chance of developing colon cancer and hip fractures for those taking combination HRT. The possible harm appears greater than the benefits. All women participating in the study on a combination of estrogen and medroxyprogesterone have been asked to discontinue HRT.

Please be assured that it is unlikely that this medicine has caused you any harm. We are aware that the study did not focus on the benefits of HRT for the relief of hot flashes. Therefore, some women may wish to accept the risk of problems and decide to take HRT for a short time to relieve hot flashes.

VA Tennessee Valley Healthcare System has reviewed this issue carefully and we strive to provide you with the best health care. We recommend that patients and providers review the risks and benefits of HRT therapy on a personal basis. We encourage you to contact your primary care provider during your next visit and discuss your need to continue HRT. If you feel that immediate attention is needed, you may contact Telephone Care at 1-800-228-4973.

Sincerely,

Joseph Awad, M.D.
Medical Director, Pharmacy and Therapeutics Committee
Appendix Figure 3. Pharmacy alert.

Dear Provider,

This patient has been identified by pharmacy as recently obtaining refills for combination hormone replacement therapy (HRT). This note is to assist you in identifying women on combination HRT. In light of new data questioning the net effect of combination HRT, we ask that you re-evaluate the need for ongoing use of HRT in your patient.

As you may be aware, the large federally funded Women’s Health Initiative (WHI) recently stopped an arm of a study involving 16,000 patients taking daily combination hormone replacement therapy (HRT). They promptly informed these patients by letter to stop taking their medication, “The trial was stopped early based on health risks that exceeded benefits over an average follow-up of 5.2 years. The results of this study are available in the article entitled ‘Risks and Benefits of Estrogen Plus Progestin in Healthy Postmenopausal Women: Principal Results from the Women’s Health Initiative Randomized Controlled Trial’: JAMA 2002; 288:321-333.

In an effort to avoid misinformation associated with the media focus, a note has been sent to patients on combination HRT to alert them of the new study. We have encouraged them to contact their provider should they have questions. We have emphasized that the risk of adverse events with combination HRT remains small.

Please respond to this alert by creating an ADDENDUM. Please cut and paste, or re-type, only one of the five options below.

1. I have already spoken to the patient and she wishes to CONTINUE combination HRT.
2. I have already spoken to the patient and she wishes to DISCONTINUE combination HRT.
3. Please CONTINUE medications; I will speak to the patient at a later date.
4. Please DISCONTINUE medications; I will speak to the patient at a later date.
5. I am not this patient’s provider.

Sincerely,

Joseph Awad, M.D.
Medical Director, Pharmacy and Therapeutics Committee