Perspectives from the NIH: WHI – A Special Interdisciplinary Project

Elias A. Zerhouni, MD
Director, National Institutes of Health
Perspectives from the NIH: WHI – A Special Interdisciplinary Project

Vivian Pinn, MD

Director, Office of Research on Women’s Health
Perspectives from the NIH: WHI – A Special Interdisciplinary Project

Elizabeth G. Nabel, MD

Director, National Heart, Lung, and Blood Institute
Director, Women’s Health Initiative
Historical Overview of WHI

Bernadine Healy, MD

Health Editor and Medical Columnist,
US News and World Report
Medical Contributor,
MSNBC
Former Director,
National Institutes of Health
WHI: Key Questions and Study Design

William Harlan, MD

Associate Director for Disease Prevention, National Institutes of Health (1991-2001)


Consultant, ClinicalTrials.gov, National Library of Medicine (current)
To answer major questions on postmenopausal women’s health

- Cancers, heart disease, osteoporosis-related bone fractures

**Vast scientific undertaking**

- 161,808 participants followed 7-12 years
- 1993-2005
- 1,000 investigators and staff
- 40 Clinical Centers across the U.S.

**Cost-effective design**
Hormone (HT) Trial

Primary Outcome: CHD
Secondary Outcomes: Hip Fracture, Breast Cancer

HT 27,347
Average 8.4 years
WHI CT Sample Size, Outcomes, Follow-up
Women, aged 50-79 Total CT = 68,133

Diet Modification (DM) Trial
- Primary Outcomes: Breast & Colorectal Cancer
- Secondary Outcome: CHD

Hormone (HT) Trial
- Primary Outcome: CHD
- Secondary Outcomes: Hip Fracture, Breast Cancer

DM 48,836
Average Follow-up 8.5 years
11.8% Overlap

HT 27,347
Average 8.4 years
WHI CaD: Outcomes, Relationship to CT

Total CT = 68,133

DM
48,836

HT
27,347

at 1st (or 2nd) Annual Visit

Calcium + Vitamin D (CaD)
Primary Outcome: Hip Fracture
Secondary Outcomes:
Other Fractures, Colorectal Cancer

CaD
36,282

Total CT
The Observational Study (OS) serves as a complement to the Clinical Trial.

Women screened for the DM or HT CT could enroll in the OS, if they were ineligible for the CT, or chose not to join either DM or HT.
WHI is:

- **Hormone Therapy Trial:** Coronary Heart Disease & Fractures. Adverse effect for Breast Cancer?
  - 27,347 participants

- **Calcium/Vitamin D Trial:** Fractures & Colorectal Cancer
  - 36,282 participants

- **Dietary Modification Trial:** Breast & Colorectal Cancers & Coronary Heart Disease
  - 48,835 participants

- **Observational Study**
  - 93,676 participants

Total participants: 161,808 women
Special Appreciation to the WHI “Field of Dreams” Team

160 NIH scientists and staff from 16 Institutes and Centers participated in the planning, evaluation, operational oversight, and fiscal monitoring of the WHI during the course of the study.

WELL DONE!
Acknowledging the WHI Participants
“The Legacy of WHI” DVD

Vivian Pinn, MD

Director, Office on Research on Women’s Health
WHI Recruitment Strategies

Judith Ockene, PhD, MEd
Principal Investigator
Worcester Clinical Center

Professor of Medicine and Chief,
Division of Preventive and Behavioral Medicine
University of Massachusetts Medical School
WHI Enrollment Goals

- Overall: 160,000+ women who were postmenopausal and willing to participate 8-12 yrs

- Specific enrollment goals for each study component

- Specific enrollment goals by age group (10% 50-54; 20% 55-59; 45% 60-69; 25% 70-79)

- Enroll minority participants in same proportion as general population
WHI Eligibility Criteria

General Criteria for Inclusion in CT and OS:
- Aged 50 to 79
- Postmenopausal
- Planning to reside in the area for at least 3 years
- Able and willing to provide written informed consent

Additional inclusion/exclusion criteria specific to each clinical trial
Recruitment Process

- Participants recruited at 40 Clinical Centers (CCs) nationwide
- CCs recruited potential participants using various strategies
- Eligibility screening: 1-4 CC visits
- CT Enrollment: Eligible and interested women randomized to intervention/control
- OS Enrollment: For women ineligible or not interested in CT
Clinical Center
Recruitment Strategies

Mass mailing was primary method for initial contact
Each CC mailed an average of 1000-5000 brochures per month for 3-5 years; 12,000 – 60,000/yr
Addresses obtained from various lists:
DMV; Voter’s registration; HMO enrollees; Health Care and Financing Administration; commercial mailing lists
Most clinics used a professional mailing service to assemble and mail materials
Clinical Center
Recruitment Strategies

Supplemental Strategies:

☐ Community presentations
☐ Local newsletter articles and ads
☐ Public service announcements (TV and radio)
☐ Name-a-friend programs
☐ Health fairs
☐ National and local press releases
☐ Health care provider referrals
☐ Brochure placement throughout community
National Recruitment Activities

- Central development of materials (brochures, videos)
- Toll free national recruitment telephone line (1-800-54-WOMEN)
- National public awareness campaign
- Central training and support of staff
- Study-wide advisory groups
Taking Calcium and Vitamin D Supplements
May reduce your risk for bone fractures and Might reduce your risk for colon, rectal and perhaps even breast cancer.

What Legacy Will You Leave Your Daughters & Future Generations?
Be Part of the Answer
The Women's Health Initiative
This is one mystery any woman over 60 can help solve.

What role do hormones and diet play in a woman's risk of getting heart disease, breast and colon cancer, and osteoporosis? You can help find the answer by volunteering to be a study participant in the Women's Health Initiative. It's one of the largest studies ever done on women's health. We need your help now—1997 is the last year for women to join the study. If you're in your 60s or 70s, call today for information. And help take some of the mystery out of women's health once and for all.

be part of the answer call 1-800-34-WOMEN

Sponsored by The National Institutes of Health
Coordinating and Monitoring Recruitment Efforts

- Recruitment Coordinator (RC) at each site and RC liaison at CCC
- Weekly national RC calls and electronic newsletter to share ideas
- Performance Monitoring Committee to monitor recruitment and provide assistance
- Use of logo, study colors, and catch-phrase on all recruitment materials
Initial Contact With WHI

During screening, women were asked how they heard about WHI:

- 66.7% Mailed letter/brochure
- 14.0% Newspaper / magazine article or ad
- 8.3% Friend Relative
- 5.7% Other
- 3.3% TV public service announcement
- 1.1% Radio public service announcement
- .9% Meeting
Description of WHI Cohort

Annlouise R. Assaf, PhD
Principal Investigator
Pawtucket/Fall River Clinical Center

Associate Professor of Community Health,
Brown Medical School
<table>
<thead>
<tr>
<th>Trial Type</th>
<th>Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hormone Trials</td>
<td>27,347</td>
</tr>
<tr>
<td>Without Uterus</td>
<td>10,739</td>
</tr>
<tr>
<td>With Uterus</td>
<td>16,608</td>
</tr>
<tr>
<td>Dietary Modification Trial</td>
<td>48,835</td>
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<td>Observational Study</td>
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<td><strong>WHI TOTAL</strong></td>
<td><strong>161,808</strong></td>
</tr>
</tbody>
</table>
Description of WHI Cohort
Exclusion Criteria for CT / OS

Clinical Trial and Observational Study
Any medical condition with predicted survival < 3 yr
Adherence or retention reasons (e.g., severe depression)

Clinical Trial
Any invasive cancer in previous 10 yrs
Breast cancer at any time
MI, stroke, or TIA in past 6 months
Chronic hepatitis or cirrhosis
Severe hypertension
Severely underweight
Description of WHI Cohort
Additional Exclusion Criteria for HT and DM

Hormone Trials
- Endometrial cancer at any time
- Malignant melanoma at any time
- History of PE or DVT
- Other safety reasons
- Inadequate adherence to placebo run-in

Dietary Modification Trials
- FFQ percent calories from fat < 32%
- Dietary requirements incompatible with intervention
- On diabetic or low salt diet
- Type I diabetes
- Colorectal cancer at any time
- Unable to keep a food record
Age Groups at Baseline by WHI Component

- **50-59**:
  - HT: 33%
  - DM: 45%
  - OS: 33%

- **60-69**:
  - HT: 22%
  - DM: 45%
  - OS: 33%

- **70-79**:
  - HT: 22%
  - DM: 33%
  - OS: 33%
Race/Ethnicity by WHI Component

- Percent

- White
- Black/Afr Am
- Hispanic
- Asian/Pac Isl
- Am Indian
- Unknown

Legend:
- HT
- DM
- OS
WHI Participants by Race/Ethnicity Census Category (Total enrolled = 161,808)

- White: 82.6%
- American Indian / Alaska Native: 4.0%
- Asian / Pacific Islander: 2.6%
- Black / African American: 9.0%
- Hispanic: 1.4%
- Other/Unknown: 0.4%
Age Group by Race/Ethnicity (Baseline)
Education at Baseline by WHI Component

Percent

0-8 Years  Some HS  HS Grad  Some College  College Grad

HT  DM  OS

0 5 10 15 20 25 30 35 40 45
Income at Baseline by WHI Component

- <$10,000
- $10K-19,999
- $20K-34,999
- $35K-49,999
- $50K-74,999
- $75,000+

HT  DM  OS
Marital Status at Baseline by WHI Component

- Never Married
- Divorced / Separated
- Widowed
- Married / Living as Married

Percent

- HT
- DM
- OS
Description of WHI Cohort

J. David Curb, MD, MPH
Principal Investigator
Hawaii Clinical Center

Professor of Geriatric Medicine,
John A. Burns School of Medicine
University of Hawaii at Manoa
Body Weight at Baseline by WHI Component

Body weight classification (BMI)

Underweight (<18.5)
Normal (18.5-24.9)
Overweight (25-29.9)
Obese (30 and over)
Physical Activity at Baseline by WHI Component

![Bar chart showing physical activity levels at baseline by WHI component. The x-axis represents activity levels: No Activity, Some Activity, Moderate Activity 2-4 weeks, Moderate Activity 4+ per week. The y-axis represents the percentage. The chart uses different colors for different components: HT, DM, and OS.](chart.png)
Smoking at Baseline by WHI Component

- Never Smoked
- Past Smoker
- Current Smoker
Alcohol Consumption at Baseline by WHI Component

- Never/Past Drinker
- 1 Drink or less / Wk
- 1-7 Drinks / Wk
- 7+ Drinks / Wk

Percent

Legend: HT, DM, OS
History of Heart Disease at Baseline by WHI Component

- Cardiovascular
  - HT
  - DM
  - OS
- MI
- CABG / PCTA
- Angina
- Stroke
Hypertension at Baseline by WHI Component

- Treated Hypertension
- Untreated Hypertension

Legend:
- HT
- DM
- OS
Diabetes (Treated) at Baseline by WHI Component

Percent

HT
DM
OS
Perceived Health Status at Baseline by WHI Component

In general, would you say your health is:

- Excellent / Very Good
- Good
- Fair/Poor