Healthy aging in diverse populations of women

Women’s Health Initiative
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Hormone Therapy Trial:
1° CHD
Breast Cancer

Calcium/Vitamin D Trial:
1° Fractures & Colorectal Cancer

Dietary Modification Trial:
1° Breast & Colorectal Cancers
2° CHD

Observational Study

1 Observational Study  3 Controlled Trials

93,676

48,835

36,282

27,347

The Women’s Health Initiative: Original Design
(161,808 postmenopausal women, ages 50-79)
N = 93,567 TOTAL

1 Observational Study

- Medical Records Cohort (AA, Hispanic, HT women)
  - Self-report followed by medical records and central adjudication + CMS + NDI

- Long Life Study (age ≥ 63)
  - Mostly self-reported outcomes and passive surveillance
  - Self-report + CMS + NDI (+ cancer adjudication)
  - Recent home visits/in-depth phenotyping/new blood collection
Current Cohort Demographics

• Enrollment in Extensions
  – 77% of eligible enrolled in Ext. 1 (2005-2010)
  – 87% of eligible enrolled in Ext. 2 (2010-2015)
  – Annual response rates ~95%

• Mean age 81
  – 50784/93657 (54%) are age >80

• Race/ethnicity
  – 87% are white (59% in MRC)
  – 7% are Black/African-American (6,136 [27%] in MRC)
  – 3% are Hispanic (2,472 [11%] in MRC)
  – 2% are Asian/Pacific Islander
  – <1% are Native American.
National Geographic Diversity
(Participant Addresses & Field Centers)
Number of participants reporting other health conditions

- Diabetes
- Osteoarthritis
- Lupus
- Hypertension
- COPD
- Macular Degeneration
- Alzheimers
- Parkinsons
Major Strengths of WHI

• National, diverse cohort of women, wide variety of conditions
  – “Aging well” and “resilience”
  – Common (eg, incident afib – N=20K,N=1300 in AA women)
  – Rare conditions (eg, multiple myeloma)
  – Health disparities
  – Survivorship (eg, CVD after cancer)

• Key “renewable” resources:
  – Biorepository
  – Medication inventories,
  – CMS linkage 1991-present (CHD, stroke, PVD, VTE, HF, cancer, cancer tx)
  – Geocoded linkages (eg, census, built environment, env. exposures)

• Major funded ancillary studies:
  – Women’s Health Initiative Memory Study (dementia/MCI assessment, MRI)
  – Long-Life Study +OPACH (home visit, blood, accelerometry)
  – LILAC (tumor tissue, cancer treatment outcomes, CVD after cancer)
  – Two new embedded RCTs will newly recruit WHI participants
    • COSMOS: Cocoa flavanols/multivitamins 2x2 factorial (Manson, PI)
    • WHISH: Mail/telephone/internet physical activity intervention (Stefanick/Lacroix)
Ongoing Collaborations

• Genomics and other “omics” (CVD, cancer, fractures, for details see overview of WHI)
  – GWAS (N~30,000; 8600 AA and 3600 Hispanic
    • MetaboChip Data – ~8,000 AA and 4,000 Hispanics
    • Exome Chip Data: ~3,000 AA and 22,000 European
    • Exome Sequencing Data: ~800 AA and 1100 European
  – CVD: COGENT, GARNET, WHISP/ESP
  – CVD, lipids, T2D, asthma: PAGE
• Cancer Collaborations
  – Breast, endometrial, colon, pancreas, etc
• Heart failure outcome harmonization with ARIC/UNC (1994-present)
  – Includes preserved/reduced ejection fraction
Status of 5,247 HF cases sent to UNC

- Unclassifiable
- HF unlikely
- Chronic Stable HF
- Possible decompensated
- Definite decompensated
Vision for Population Science (How Do Existing Cohorts Fit In?)

• Design new studies (and re-tool existing ones) to address key unanswered public health questions
• More cross-collaboration, fewer “siloes”
• Blend observational, clinical trial, and health services research (i.e., claims/EMR) methods
• Transition from traditional methods of recruitment and data collection by visits, mail, phone toward electronic/mobile data sources
  – Keep watching PCORnet, Collaboratory, Sentinel, Optum Labs
• Maintain and expand the high quality scientific training opportunities that currently exist
  – ~250 funded ancillary studies, ~60% PI is new to WHI
  – ~1000 published manuscripts, ~50% now led by author new to WHI
Cross-Cohort Project Ideas

• Cross-cohort trial
  – COSMOS supported by WHI + VITAL
    • CTSAs for visits and mechanistic studies
  – Preserved ejection HF
    • Promising interventions?
    • How to deliver efficiently?
    • Use CMS and other claims databases for outcomes

• Less common CVD conditions (race/ethnicity)
  – Aortic stenosis (VHD), PVD, sudden cardiac death