Welcome to the 2021 WHI Investigator Webinar

Sally A. Shumaker, Ph.D.
Professor, Social Sciences & Health Policy, Division of Public Health Sciences
Chair, WHI Steering Committee
General updates

• New voting member added to the Steering Committee representing all SIGs
  • Carolyn Crandall was selected by her SIG Chair Peers
  • Her term began January 2021
  • Position will rotate every 2 years

• New COVID Scientific Interest Group formed in Fall, 2020
General updates continued

• Transition of Steering Committee Chair
  • I will transition out of the role on December 31, 2021
  • The next Chair will be named over the next couple of months – please refer to the announcement regarding the broadening eligibility for serving in the role, and the selection process

• Upcoming Scientific Webinars: COSMOS (February 26, 2022, 11:00am – 12:30pm PST; 2:00pm – 3:30pm EST)
May 2022 Investigator Meeting

• WHI Annual Scientific in person meeting for 2022 announced

• May 6-7, 2022

• Hilton at Dulles Airport, Washington DC

• Working Group formed to develop program (Carolyn Crandall (Chair), Ted Brasky, Marcia Stefanick, Hilary Tindle, Michael LaMonte, Kate Hayden, Macarius Donneyong, & Rebecca Jackson)

• Look for announcements for requests for Poster & Ignite Proposals
<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
<th>Speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00-10:05 am</td>
<td>Welcome/Overview of Day</td>
<td>Sally Shumaker – SC Chair</td>
</tr>
<tr>
<td>10:05-10:15 am</td>
<td>CCC Presentation: WHI Cohort Updates; Participant Webinars Long Life Study 2</td>
<td>Garnet Anderson – PI, CCC</td>
</tr>
<tr>
<td></td>
<td>COVID19 Data Biorepository</td>
<td></td>
</tr>
<tr>
<td>10:15-10:25 am</td>
<td>Q&amp;A</td>
<td>Everyone</td>
</tr>
<tr>
<td></td>
<td>Ancillary Study Updates:</td>
<td></td>
</tr>
<tr>
<td>10:25-10:30 am</td>
<td>LILAC</td>
<td>Electra Paskett</td>
</tr>
<tr>
<td>10:30-10:35 am</td>
<td>WHISPER</td>
<td>Dan Beavers</td>
</tr>
<tr>
<td>10:35-10:40 am</td>
<td>WHISH</td>
<td>Marcia Stefanick</td>
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<tr>
<td>10:40-10:50 am</td>
<td>Q&amp;A</td>
<td>Everyone</td>
</tr>
<tr>
<td>10:50-10:55 am</td>
<td>Program Office Updates</td>
<td>Jared Reis &amp; Shari Ludlam</td>
</tr>
<tr>
<td>10:55-11:05 am</td>
<td>Q&amp;A</td>
<td>Everyone</td>
</tr>
<tr>
<td></td>
<td>Standing Committee Updates</td>
<td></td>
</tr>
<tr>
<td>11:05-11:10 am</td>
<td>Papers &amp; Presentations</td>
<td>Cyndi Thomson &amp; Linda Van Horn</td>
</tr>
<tr>
<td>11:10-11:15 am</td>
<td>Ancillary Studies</td>
<td>Marian Neuhouser</td>
</tr>
<tr>
<td>11:15-11:20 am</td>
<td>Outcomes</td>
<td>Brian Silver</td>
</tr>
<tr>
<td>11:20-11:30 am</td>
<td>Q&amp;A</td>
<td>Everyone</td>
</tr>
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</table>
Program Details

• Short presentations with limited time for Q&A
• Meeting will be recorded and available on the WHI website
• Please remain on mute, questions for speakers should be sent to the Chat
• Speakers will answer as many as time allows. Questions not addressed during the program will be sent to the speakers and they will follow-up
Thanks to those who kept WHI moving forward during the pandemic

Staff at the CCC and the RCs for continuing data collection, outcomes processing, data management, analysis and reporting, and support for ancillary studies.

All who helped figure out how to support remote work

Special thanks to staff who came into the office to keep this machine running
### WHI Participant Status

**Annual Progress Report, led by Rebecca Hunt**

**Data as of March 6, 2021**

<table>
<thead>
<tr>
<th></th>
<th>Total 161,808</th>
<th>CT 68,132</th>
<th>OS 93,676</th>
<th>Super-MRC 44,174</th>
<th>Super-SRC 117,634</th>
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<td><strong>Deceased</strong></td>
<td>47,723 (29.5)</td>
<td>20,126 (29.5)</td>
<td>27,597 (29.5)</td>
<td>12,096 (27.4)</td>
<td>35,627 (30.3)</td>
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<tr>
<td><strong>Lost to follow-up</strong></td>
<td>2,289 (1.5)</td>
<td>1,154 (1.7)</td>
<td>1,235 (1.3)</td>
<td>893 (2.0)</td>
<td>1,496 (1.3)</td>
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<tr>
<td><strong>Stopped follow-up</strong></td>
<td>52,589 (32.5)</td>
<td>20,457 (30.0)</td>
<td>32,132 (34.3)</td>
<td>17,536 (39.7)</td>
<td>35,053 (29.8)</td>
</tr>
<tr>
<td><strong>Alive, current/recent participation</strong></td>
<td>59,107 (36.5)</td>
<td>26,395 (38.7)</td>
<td>32,712 (34.9)</td>
<td>13,649 (30.9)</td>
<td>45,458 (38.6)</td>
</tr>
</tbody>
</table>

**MRC:** Medical Record Cohort—Black/African American, Hispanic/Latina participants and HT participants who consented to 2010 Extension; Super-MRC includes all participants from these categories regardless of re-consent or vital status.

**SRC:** Self-Report Cohort, all other participants who consented in 2010; Super SRC includes all regardless of reconsent or vital status.
Table 1.4
Counts of Participants with Active Participation by Current Age, Race/Ethnicity and Cohort
Data as of: March 6, 2021

<table>
<thead>
<tr>
<th></th>
<th>Clinical Trial (N=26,395)</th>
<th>Observational Study (N=32,712)</th>
<th>MRC Cohort (N=13,649)</th>
<th>SRC Cohort (N=45,458)</th>
<th>Total (N=59,107)</th>
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<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td><strong>Age on 3/06/2021</strong></td>
<td></td>
<td></td>
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<tr>
<td>&lt;75</td>
<td>124</td>
<td>0.5</td>
<td>416</td>
<td>1.3</td>
<td>183</td>
</tr>
<tr>
<td>75-79</td>
<td>5148</td>
<td>19.5</td>
<td>6987</td>
<td>21.4</td>
<td>2990</td>
</tr>
<tr>
<td>80-84</td>
<td>8620</td>
<td>32.7</td>
<td>10007</td>
<td>30.6</td>
<td>4273</td>
</tr>
<tr>
<td>85-89</td>
<td>7178</td>
<td>27.2</td>
<td>8250</td>
<td>25.2</td>
<td>3458</td>
</tr>
<tr>
<td>90-94</td>
<td>4093</td>
<td>15.5</td>
<td>5279</td>
<td>16.1</td>
<td>2069</td>
</tr>
<tr>
<td>95+</td>
<td>1232</td>
<td>4.7</td>
<td>1773</td>
<td>5.4</td>
<td>676</td>
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<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Hispanic/Latina</td>
<td>25322</td>
<td>95.9</td>
<td>31602</td>
<td>96.6</td>
<td>11900</td>
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<tr>
<td>Hispanic/Latina</td>
<td>1025</td>
<td>3.9</td>
<td>1032</td>
<td>3.2</td>
<td>1739</td>
</tr>
<tr>
<td>Other/Not Reported</td>
<td>48</td>
<td>0.2</td>
<td>78</td>
<td>0.2</td>
<td>10</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>American Indian/Alaska Native</td>
<td>59</td>
<td>0.2</td>
<td>72</td>
<td>0.2</td>
<td>42</td>
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<tr>
<td>Asian</td>
<td>589</td>
<td>2.2</td>
<td>700</td>
<td>2.1</td>
<td>151</td>
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<tr>
<td>Native Hawaiian/Other Pacific Islander</td>
<td>30</td>
<td>0.1</td>
<td>17</td>
<td>0.1</td>
<td>19</td>
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<tr>
<td>Black/African American</td>
<td>2117</td>
<td>8.0</td>
<td>1701</td>
<td>5.2</td>
<td>3767</td>
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<tr>
<td>White</td>
<td>22953</td>
<td>87.0</td>
<td>29552</td>
<td>90.3</td>
<td>8955</td>
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<tr>
<td>More than one Race</td>
<td>398</td>
<td>1.5</td>
<td>335</td>
<td>1.0</td>
<td>257</td>
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<tr>
<td>Other/Not Reported</td>
<td>249</td>
<td>0.9</td>
<td>335</td>
<td>1.0</td>
<td>458</td>
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</table>
Follow-up rates were lower in 2020

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
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<tbody>
<tr>
<td>Mailing Response</td>
<td>81.5%</td>
<td>70.5%</td>
</tr>
<tr>
<td>Telephone follow-up</td>
<td>62.1%</td>
<td>39.2%</td>
</tr>
<tr>
<td>Total response rates</td>
<td>86.3%</td>
<td>74.3%</td>
</tr>
</tbody>
</table>

Likely due to delays in processing, expected to be one-time issues
Form 151B response rates very close to those for Form 33
Long-Life Study-2 planning

• Launch date under discussion, based on pandemic concerns
• CCC is fielding a small survey to assess acceptability of a visit

• Components of the LLS protocol
  Brief physical exam (BP, pulse, height, weight)
  Objective physical function measures (grip strength, chair stand, timed walk, balance test)
  Fasting blood draw (serum, plasma, buffy coat) → CVD biomarkers
Status of LLS-1 Cohort
(Annual Progress Report—Section 6)

- Post-LLS-1 visit events
  - 1179 participants with CVD events
  - 681 diagnosed with cancer
  - 307 hip fractures

- New self-reports post-LLS-1
  - 1168 with macular degeneration
  - 903 with osteoarthritis
  - 793 with COPD
# 2020 COVID-19 Survey Data

(Annual Progress Report—Section 9)

Funding provided primarily by NHLBI contracts to the CCC and RCs, supplemented by limited institutional resources

<table>
<thead>
<tr>
<th>If tested, positive result</th>
<th>Overall (N=49,695)</th>
<th>Age at WHI COVID-19 Survey</th>
<th>70-79 (N=13,317)</th>
<th>80-84 (N=16,083)</th>
<th>85-89 (N=12,160)</th>
<th>≥90 (N=8,135)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>No</td>
<td>8368</td>
<td>94.0</td>
<td>2180</td>
<td>93.2</td>
<td>2585</td>
<td>94.7</td>
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<tr>
<td>Yes</td>
<td>311</td>
<td>3.5</td>
<td>81</td>
<td>3.5</td>
<td>84</td>
<td>3.1</td>
</tr>
<tr>
<td>Unsure</td>
<td>223</td>
<td>2.5</td>
<td>78</td>
<td>3.3</td>
<td>62</td>
<td>2.3</td>
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</table>

<table>
<thead>
<tr>
<th>Ever hospitalized for COVID-19</th>
<th>Overall (N=49,695)</th>
<th>Age at WHI COVID-19 Survey</th>
<th>70-79 (N=13,317)</th>
<th>80-84 (N=16,083)</th>
<th>85-89 (N=12,160)</th>
<th>≥90 (N=8,135)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>No</td>
<td>214</td>
<td>71.6</td>
<td>64</td>
<td>80.0</td>
<td>50</td>
<td>63.3</td>
</tr>
<tr>
<td>Yes</td>
<td>81</td>
<td>27.1</td>
<td>13</td>
<td>16.3</td>
<td>29</td>
<td>36.7</td>
</tr>
<tr>
<td>Unsure</td>
<td>4</td>
<td>1.3</td>
<td>3</td>
<td>3.8</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>If hospitalized, number of nights</th>
<th>Overall (N=49,695)</th>
<th>Age at WHI COVID-19 Survey</th>
<th>70-79 (N=13,317)</th>
<th>80-84 (N=16,083)</th>
<th>85-89 (N=12,160)</th>
<th>≥90 (N=8,135)</th>
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<tr>
<td>1 night</td>
<td>1</td>
<td>1.3</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
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<tr>
<td>2-3 nights</td>
<td>10</td>
<td>12.5</td>
<td>0</td>
<td>0.0</td>
<td>4</td>
<td>13.8</td>
</tr>
<tr>
<td>4-6 nights</td>
<td>29</td>
<td>36.3</td>
<td>9</td>
<td>69.1</td>
<td>8</td>
<td>27.6</td>
</tr>
<tr>
<td>7-13 nights</td>
<td>19</td>
<td>23.8</td>
<td>3</td>
<td>23.1</td>
<td>6</td>
<td>20.7</td>
</tr>
<tr>
<td>14 or more nights</td>
<td>20</td>
<td>25.0</td>
<td>1</td>
<td>7.7</td>
<td>11</td>
<td>37.9</td>
</tr>
<tr>
<td>Unsure</td>
<td>1</td>
<td>1.3</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
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</table>
2021 COVID-19 survey is in the field

• Repeats many elements of 2020 survey
  • Emphasis on psychosocial impact of the pandemic and prevention approaches
• Added
  • Vaccination status
  • Long-COVID-19 symptoms

• Funding thanks to:
  • CCC/Andy Hill Care Fund of Washington State
  • Regional Centers/PIs
    • Sally Shumaker/Mara Vitolins
    • Jean Wactawski-Wende
    • Becky Jackson
    • Marcia Stefanick
    • JoAnn Manson
Preliminary (incomplete) 2021 COVID-19 survey data

<table>
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<tr>
<th></th>
<th>Sent</th>
<th>Received</th>
<th>Total</th>
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<tbody>
<tr>
<td>Total</td>
<td>45651</td>
<td>27040</td>
<td>59%</td>
</tr>
<tr>
<td>Mailed</td>
<td>35356</td>
<td>19562</td>
<td>55%</td>
</tr>
<tr>
<td>RedCap</td>
<td>10295</td>
<td>7478</td>
<td>73%</td>
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<table>
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<tr>
<th>Age</th>
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<tbody>
<tr>
<td>&lt;75</td>
<td>315</td>
<td>222</td>
<td>70%</td>
</tr>
<tr>
<td>75-79</td>
<td>9322</td>
<td>6281</td>
<td>67%</td>
</tr>
<tr>
<td>80-84</td>
<td>14953</td>
<td>9219</td>
<td>62%</td>
</tr>
<tr>
<td>85-89</td>
<td>12125</td>
<td>6834</td>
<td>56%</td>
</tr>
<tr>
<td>90+</td>
<td>8936</td>
<td>4484</td>
<td>50%</td>
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</tbody>
</table>

- 96% report being vaccinated
  - 50% Pfizer
  - 45% Moderna
  - 2% J&J
  - 2% Other/Don’t Know

- 890 reported a + COVID-19 test
- 255 were hospitalized for a COVID-19 infection
WHI Participant Webinar series

• Keynotes from:
  • Janine Clayton, Director, ORWH
  • Gary Gibbons, Director, NHLBI

Recordings available at https://www.whi.org/pptwebinar
Quarterly webinars will resume in January
Data updates

• WHI data through March, 2021 are now available for download to authorized users
  • Includes Form 151B—expanded psychosocial variables
  • Imputed race/ethnicity variables
  • 2020 COVID-19 survey data

• Medicare data
  • Part C: 2015-2018
  • Part D for (depends on the Part D file, please see below)
    • Event Data 2006-2019
    • Drug Characteristics File 2006-2019
    • Prescriber Characteristics 2014-2019
    • Formulary File 2010-2019

• NDI
  • Complete data through 2019
  • Early release data for 2020
Hoping to see you May 5-6, 2022!

Hilton Washington Dulles Airport
13869 Park Center Rd
Herndon, VA
Life and Longevity After Cancer (LILAC): The WHI Cancer Survivor Cohort

PIs: Garnet Anderson, Bette Caan, Electra Paskett

Funded by the NCI U01 CA173642
Life and Longevity After Cancer

Overall Goal: To create a resource to support studies of cancer survival, survivorship and molecular epidemiology in WHI

Augmented the WHI resource for selected cancers

• Breast, colorectal, lung, endometrial, and ovarian cancers; melanoma, leukemia and non-Hodgkin’s lymphomas

Specific elements included:

• First line cancer treatment and recurrence information
• Patient reported outcomes data, emphasizing late and long-term effects
• Formalin-fixed paraffin-embedded tumor tissue for solid tumors
# Status of the LILAC Resource

<table>
<thead>
<tr>
<th>Cancer</th>
<th>Total*</th>
<th>Baseline Q</th>
<th>Treatment</th>
<th>Tissue</th>
<th>Baseline Q &amp; Treatment</th>
<th>All 3 LILAC components</th>
</tr>
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<tbody>
<tr>
<td><strong>Total</strong></td>
<td>12,905</td>
<td>7966</td>
<td>11714</td>
<td>4117</td>
<td>6782</td>
<td>3123</td>
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<tr>
<td>Breast</td>
<td>5,946</td>
<td>4513</td>
<td>5237</td>
<td>2102</td>
<td>3804</td>
<td>1825</td>
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<tr>
<td>Colorectal</td>
<td>1536</td>
<td>856</td>
<td>1432</td>
<td>645</td>
<td>754</td>
<td>443</td>
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<tr>
<td>Lung</td>
<td>1725</td>
<td>455</td>
<td>1668</td>
<td>497</td>
<td>403</td>
<td>236</td>
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<tr>
<td>Endometrial</td>
<td>987</td>
<td>698</td>
<td>873</td>
<td>386</td>
<td>584</td>
<td>289</td>
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<td>Leukemia</td>
<td>464</td>
<td>205</td>
<td>434</td>
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<tr>
<td>NHL</td>
<td>863</td>
<td>487</td>
<td>799</td>
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<td>423</td>
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<td>Melanoma</td>
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<td>519</td>
<td>585</td>
<td>256</td>
<td>441</td>
<td>218</td>
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<tr>
<td>Ovarian</td>
<td>721</td>
<td>233</td>
<td>686</td>
<td>231</td>
<td>198</td>
<td>112</td>
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</table>

*Includes LILAC cancers where data were collected under a waiver of consent

Other cancers collected upon request
LILAC-II (2019-2024) Aims

• Assess trajectories of aging & accelerated aging
• Using age-matched cancer-free controls, examine effects of a cancer diagnosis and its treatment on aging
• Conduct a home visit in ~2000 cancer survivors
• Promote the use of this resource broadly
• Continue to enroll WHI participants with newly diagnosed LILAC cancers and maintain follow-up
WHI/LILAC timeline for biomarkers of Aging

- **2 serial blood collections on each woman**
- **Serial blood collections on a subsample of CT participants**
- **Blood collection (N~8000, including 735 LILAC participants)**
- **Blood collection (N~6000, including 2000 LILAC participants)**
Research GAPS in Cancer and Aging

Studies of impact of cancer and its treatments
1) Among those ≥ 75 years of age
2) Among those with comorbidities, function losses, cognitive decline, and frailty
To understand how cancer and its treatments interact with these underlying vulnerabilities

Geriatric assessment measures needed in oncology research
1) Incorporate validated GA measures
2) Assess other endpoints, including mental health, physical function and quality of life

Incorporate aging biomarkers in oncology research
1) Aging biomarkers to identify those at risk for cancer treatment side effects
2) Tumor samples to assess whether tumor biology changes with aging

Research Opportunities in LILAC

• Aging and Cancer Symposium – February 22-24, 2021

• LILAC RFA
  – Manuscript proposals (limited to analyses of existing WHI and LILAC data)
  – Ancillary studies (grant proposals to collect additional data)
    • Additional questionnaires
    • LILAC-LLS-2 specimens
    • Tumor tissue
  – Three proposals approved in first round (March 2021 RFA)
<table>
<thead>
<tr>
<th>Title</th>
<th>Investigator(s)</th>
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<tbody>
<tr>
<td>LILAC – Cancer Treatment and Trajectories of Epigenetic and Functional Aging in Long-Term Survivors</td>
<td>Elizabeth M. Cespedes Feliciano and Alexandra Binder</td>
</tr>
<tr>
<td>Trajectories of Cognitive Functioning, and Factors in Cognitive Decline Among Older Women with and without a Prior Diagnosis of Cancer</td>
<td>Beverly M. Snively (PI), Stephen R. Rapp, Mara Z. Vitolins</td>
</tr>
<tr>
<td>Biological Signatures of Physical Resilience in Older Cancer Survivors</td>
<td>Mina Sedrak</td>
</tr>
</tbody>
</table>
Support for selected studies

• LILAC can provide:
  – Statistical analysis support
    • Currently tapped out
    • Proposals that don’t need LILAC resources are encouraged
  – Access to WHI and LILAC data and LILAC biospecimens, if needed
  – Assistance from LILAC investigators throughout, including navigation through the WHI approval process
  – Monthly review of manuscript and AS proposals before submission to WHI

• LILAC cannot provide direct funding for:
  – Retrieval, processing or analysis of WHI biospecimens
  – Processing or analysis of LILAC biospecimens
Thanks to

LILAC participants and staff (Roberta Ray, Sowmya Vasan)
WHI Participants, Investigators & Staff
NCI Program officers for LILAC: Joann Elena and Lisa Gallicchio

The WHI program is funded by the National Heart, Lung, and Blood Institute, National Institutes of Health, U.S. Department of Health and Human Services through contracts 75N92021D00001, 75N92021D00002, 75N92021D00003, 75N92021D00004, 75N92021D00005. LILAC is supported by NCI U01 CA173642
WHISPER Study Update

Daniel Beavers

for the WHISPER Study Group

Laura Baker, Emily Gower, Tianyi Huang, Lisa Johnson, Dan Mobley, Kathy Peters, Debbie Pleasants, Steve Rapp, Dave Reboussin, Susan Redline, Margo Scales, Jenny Schoenberg, Sally Shumaker, Bev Snively, Julia Spell, Katie Stone, Lesley Tinker
Collaborations

Wake Forest School of Medicine
   WHISPER Coordinating Center

BWH/Harvard:
   Redline Sleep Reading Center (oximetry)

California Pacific Medical Center
   Stone Sleep Reading Center (actigraphy)

Fred Hutchinson CRC
   WHI CCC

UNC Chapel Hill
   CMS and Data Mining Expertise

Consultants
   JoAnn Manson, MD PhD
   Howie Sesso, PhD
   Marcia Stefanick, PhD
Aims

Sleep metrics: Impact on adjudicated CARDIOVASCULAR events over 3 years of f/u

Sleep metrics: Impact on adjudicated CANCER incidence & severity over 3 years of f/u

Sleep metrics: Impact on COGNITIVE trajectory and incident cognitive impairment over 18 mos of f/u
Study Design
Enrollment Goal: N = 5000

1. **Sleep Assessments** using validated wrist-worn devices
   - **WatchPAT**: FDA-approved portable diagnostic device for sleep apnea measuring peripheral arterial tone (autonomic change due to respiratory disturbances), blood oxygen levels, actigraphy, heart rate, body position, snoring
   - **Actigraphy**: continuous measurements of activity via tri-axial accelerometer obtained for 4 consecutive 24-hour periods (overlapping oximetry); measures total sleep/wake time, number of awakenings, sleep efficiency and fragmentation, and frequency of daytime naps

2. **Cognitive Assessments** via telephone using validated protocols
   - Developed for WHIMS follow-up studies; now used in COSMOS-Mind
# Consented WHISPER Study Participants

<table>
<thead>
<tr>
<th>Participants with written consent</th>
<th>N=5176</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Age (eligibility)</td>
<td>5117</td>
</tr>
<tr>
<td>Ethnicity/Race</td>
<td>N</td>
</tr>
<tr>
<td>White</td>
<td>3602</td>
</tr>
<tr>
<td>Black or African-American</td>
<td>1083</td>
</tr>
<tr>
<td>Hispanic</td>
<td>377</td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>15</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>59</td>
</tr>
<tr>
<td>Other</td>
<td>36</td>
</tr>
<tr>
<td>Missing</td>
<td>4</td>
</tr>
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</table>
## Baseline Sample Size

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at WHISPER baseline (yrs)</td>
<td>4990</td>
<td>80.5</td>
<td>4.8</td>
</tr>
<tr>
<td>Body Mass Index (kg/m^2)</td>
<td>4985</td>
<td>27.3</td>
<td>5.7</td>
</tr>
<tr>
<td>Apnea-Hypopnea Index: AHI4 from WatchPAT</td>
<td>4990</td>
<td>10.6</td>
<td>10.3</td>
</tr>
<tr>
<td>Total Sleep Time (min) from Actigraphy</td>
<td>4708</td>
<td>412.4</td>
<td>64.2</td>
</tr>
<tr>
<td>Modified Telephone Interview for Cognitive Status (TICSm) Total Score</td>
<td>4875</td>
<td>34.9</td>
<td>4.7</td>
</tr>
</tbody>
</table>
## Cognitive Assessments

### WHISPER Cognitive Summary

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Month 18</th>
<th>Month 36</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Totals</strong></td>
<td>4875</td>
<td>4310 (88%)</td>
<td>480 (10%)</td>
</tr>
<tr>
<td><strong>Ethnicity/Race</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>3424</td>
<td>3034</td>
<td>387</td>
</tr>
<tr>
<td>Black or African-American</td>
<td>994</td>
<td>880</td>
<td>64</td>
</tr>
<tr>
<td>Hispanic</td>
<td>350</td>
<td>303</td>
<td>20</td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>14</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>56</td>
<td>49</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>33</td>
<td>28</td>
<td>2</td>
</tr>
<tr>
<td>Missing</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>
Other Key Points

• Data collection complete, currently in NCE, projected to end Summer 2022

• Baseline & primary outcomes papers currently being written

• Ancillary ideas? Contact Laura Baker

(ldbaker@wakehealth.edu)
Thanks!

• SPECIAL THANKS TO NHLBI
  – R01 HL133684

• National Alzheimer’s Project Act
Women’s Health Initiative Strong & Healthy Trial

Primary Hypothesis
A centralized, public health (DHHS-based) Physical Activity (PA) intervention designed to increase and/or maintain PA levels and reduce sedentary behavior will reduce incidence of major CV clinical events (MI, stroke, CVD death) in older women.

Secondary Hypothesis
PA, versus “usual activity” Comparison, will lower rates of VTE and PAD and reduce loss of Physical Function (per Rand-36 score) and increase rates of ongoing mobility and independence.

Primary Safety Outcomes: hip fracture and non-CVD death
Women’s Health Initiative Strong and Healthy Pragmatic Physical Activity Intervention Trial for Cardiovascular Disease Prevention: Design and Baseline Characteristics

Marcia L. Stefanick, PhD, Abby C. King, PhD, Sally Mackey, MS, Lesley F. Tinker, PhD, Mark A. Hlatky, MD, Michael J. LaMonte, PhD, John Belletiere, PhD, Joseph C. Larson, MS, Gamet Anderson, PhD, Charles L. Kooperberg, PhD, and Andrea Z. LaCroix, PhD


Randomized consent study design *(based on Zelen, *N Engl J Med* 1979)*

- Embedded in WHI-ES
- Pragmatic trial
### Table 2. Descriptive Statistics of WHISH Participants by Trial Arm

<table>
<thead>
<tr>
<th>Category</th>
<th>All (n = 49,331)</th>
<th>Intervention (n = 24,657)</th>
<th>Control (n = 24,674)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome Coverage</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WHI-adjudicated only</td>
<td>10,554 (21.4)</td>
<td>5,306 (21.5)</td>
<td>5,248 (21.3)</td>
<td>.76</td>
</tr>
<tr>
<td>CMS only</td>
<td>30,346 (61.5)</td>
<td>15,156 (61.5)</td>
<td>15,190 (61.6)</td>
<td></td>
</tr>
<tr>
<td>WHI + CMS</td>
<td>8,431 (17.1)</td>
<td>4,195 (17.0)</td>
<td>4,236 (17.2)</td>
<td></td>
</tr>
<tr>
<td><strong>Age, mean (SD)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;77</td>
<td>16,878 (34.2)</td>
<td>8,421 (34.2)</td>
<td>8,098 (32.8)</td>
<td>.45</td>
</tr>
<tr>
<td>77-82</td>
<td>16,220 (32.9)</td>
<td>8,122 (32.9)</td>
<td>8,098 (32.8)</td>
<td></td>
</tr>
<tr>
<td>≥83</td>
<td>16,233 (32.9)</td>
<td>8,114 (32.9)</td>
<td>8,098 (32.8)</td>
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</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
<td>.93</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>41,606 (84.3)</td>
<td>20,771 (84.2)</td>
<td>20,835 (84.4)</td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic Black/African</td>
<td>4,514 (9.2)</td>
<td>2,276 (9.2)</td>
<td>2,238 (9.1)</td>
<td></td>
</tr>
<tr>
<td>Hispanic/Latina</td>
<td>1,628 (3.3)</td>
<td>819 (3.3)</td>
<td>809 (3.3)</td>
<td></td>
</tr>
<tr>
<td>American Indian/Alaskan</td>
<td>1,511 (3.0)</td>
<td>71 (0.3)</td>
<td>80 (0.3)</td>
<td></td>
</tr>
<tr>
<td><strong>Physical Functioning Score</strong></td>
<td></td>
<td></td>
<td></td>
<td>&gt;.99</td>
</tr>
<tr>
<td>&lt;65</td>
<td>12,166 (25.7)</td>
<td>6,97 (2.5)</td>
<td>6,09 (2.5)</td>
<td></td>
</tr>
<tr>
<td>65-89</td>
<td>19,195 (38.9)</td>
<td>9,639 (39.1)</td>
<td>9,556 (38.7)</td>
<td></td>
</tr>
<tr>
<td>≥90</td>
<td>18,023 (38.4)</td>
<td>10,058 (41.4)</td>
<td>10,046 (41.3)</td>
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<tr>
<td><strong>Use of BP Meds</strong></td>
<td></td>
<td></td>
<td></td>
<td>.41</td>
</tr>
<tr>
<td>Yes</td>
<td>30,136 (61.1)</td>
<td>15,018 (62.2)</td>
<td>15,118 (61.3)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>19,195 (38.9)</td>
<td>9,639 (38.9)</td>
<td>9,556 (38.7)</td>
<td></td>
</tr>
<tr>
<td><strong>Use of Lipids Meds</strong></td>
<td></td>
<td></td>
<td></td>
<td>.64</td>
</tr>
<tr>
<td>Yes</td>
<td>21,801 (43.8)</td>
<td>10,871 (44.1)</td>
<td>10,930 (44.3)</td>
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<tr>
<td>No</td>
<td>27,530 (55.8)</td>
<td>13,786 (55.9)</td>
<td>13,744 (55.7)</td>
<td></td>
</tr>
<tr>
<td><strong>BMI, mean (SD)</strong></td>
<td></td>
<td></td>
<td></td>
<td>.67</td>
</tr>
<tr>
<td>&gt;30</td>
<td>14,921 (30.2)</td>
<td>7,432 (30.1)</td>
<td>7,489 (30.4)</td>
<td></td>
</tr>
<tr>
<td>≤30</td>
<td>34,383 (69.7)</td>
<td>17,210 (69.8)</td>
<td>17,213 (69.6)</td>
<td></td>
</tr>
<tr>
<td><strong>Physical Functioning Score, mean (SD)</strong></td>
<td></td>
<td></td>
<td></td>
<td>.76</td>
</tr>
<tr>
<td>&lt;65</td>
<td>71.6 (25.2)</td>
<td>71.5 (25.2)</td>
<td>71.6 (25.2)</td>
<td></td>
</tr>
<tr>
<td>65-75</td>
<td>15,156 (30.7)</td>
<td>7,601 (30.8)</td>
<td>7,551 (30.6)</td>
<td></td>
</tr>
<tr>
<td>76-89</td>
<td>8,283 (16.8)</td>
<td>4,119 (16.7)</td>
<td>4,164 (16.9)</td>
<td></td>
</tr>
<tr>
<td>≥90</td>
<td>8,283 (16.8)</td>
<td>4,119 (16.7)</td>
<td>4,164 (16.9)</td>
<td></td>
</tr>
</tbody>
</table>

* Mean age (8/30/2021): 84.3 years

Intervention

- Quarterly (Seasonal) **WHISH**ful Action Mailings
- Monthly Motivational Telephone Messages
  *(Outbound “Adriana” System; IVR tracking system)*
- Monthly Emails (~1/3 of Active Intervention Participants)
- Website *(whish.org - upgraded, tracking system)*
- Telephone, Mail, Email

**WHISH-EnCORE** (Smartphone)
*(King, Stefanick resubmitted March 2021)*
- **enhanced Core** *(enCore) Alone*
- enCore + **Our Voice** intervention
- enCore + **Our Voice** +Telehealth

### Request WHISH Materials and Physical Activity Aids

- Please select what you would like to receive and return card in the pre-paid envelope:
  - WHISH Pedometer
  - WHISH Pedometer Belt
  - WHISH Resistance Bands
  - WHISH Sun Visor
  - WHISH Bandana
  - Stick-With-it Notepad to create activity goals
  - WHISH calendar to track your activity
  - Go4Life Exercise and Physical Activity Book
  - Exercise inserts from newsletters
  - Join the WHISH Monthly Email Campaign

*For a faster response, you can email or call us to let us know which materials you would like.*
The 24-hour day
Break up long periods of sitting with light activity

What does your typical 24-hour day look like? Whether you’re constantly moving or spending quiet time sitting, for your good health it’s helpful to take a look at your activity patterns. Breaking up prolonged sedentary time and engaging in regular physical activity are important strategies for healthy aging. Everyone’s daily pattern may be different, but each pattern can accumulate enough physical activity.

Use the insert in this newsletter to break down how you spend your 24-hour day and create your own 24-hour clock. If you have long periods of inactivity, find ways to include some light or moderate activity. Compare the clock you create to the sample clock below. Also, take a look at Jean and Lisa’s clocks (right) to see how they spend their typical 24-hour day!

<table>
<thead>
<tr>
<th>Time of Day</th>
<th>Activity</th>
<th>Inactive</th>
<th>Light</th>
<th>Mod/Vig</th>
<th>Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 am to 12:00 pm</td>
<td>Collect clothes and load laundry</td>
<td></td>
<td>X</td>
<td></td>
<td>45 minutes</td>
</tr>
<tr>
<td></td>
<td>Brisk, walk</td>
<td></td>
<td>X</td>
<td></td>
<td>15 minutes</td>
</tr>
<tr>
<td></td>
<td>Sit and check my emails</td>
<td></td>
<td></td>
<td></td>
<td>1 hour</td>
</tr>
<tr>
<td></td>
<td>Prepare lunch</td>
<td></td>
<td></td>
<td></td>
<td>1 hour</td>
</tr>
</tbody>
</table>

Key: Activity Guidelines
- 7 1/2 hours Sleep
- 8 hours Resting or inactive sitting
- 8 hours Light activity or active sitting
- 1/2 hour Moderate/Vigorous Activity

If you are able to do moderate/vigorous activity, you may do it in one 30 minute bout or it can be broken up into smaller bouts throughout the day, e.g. two 15 minute sessions. What does your moderate/vigorous activity look like?
**Postcard prompt:** “Think about the last time you didn’t feel like being active. How did you get yourself to move or get up?”

4108 women (20.9%) aged 70–99

May 2020: 10-question COVID-19 survey was sent by email (REDcap HIPAA-compliant database) to 5,823* participants in WHISH Monthly Email campaign.

*2nd mailing to non-respondents

2718 (46.7%) returned survey within 6 weeks.

https://redcap.stanford.edu/surveys/?s=D68dsUaGvo

Intervention Participant Retention (August 31, 2021)

23,653 Participants Passively Consented to Intervention

- 18,975 (80.2%) Alive
- 4,678 (19.8%) Deceased

16,056 (84.6%) Active, among Alive

Intervention Group Engagement

-- Responded to Survey 4 (2018): 13,673 of 19,075 = 71.7%
-- Responded to Survey 5 (2019): 12,672 of 18,080 = 70.1%
-- Responded to Survey 6 (2021): still coming in:
  - 1st mailing: N = 8,739 (52.3%)
  - 2nd mailing underway (by Sept 30, 2021 = 10,401 (63%)
Self-reported Physical Activity Levels Reported by Six-Month Interval from 7/28/2015 - 8/31/2021

Red = Intervention
Blue= Control

Randomization occurred from 4/2/2015 to 6/25/2015; intervention mailings started on 5/26/2015; results reflect each participant’s most recent report of exercise per six-month interval
Ancillary Studies

WHISH - SilenT Atrial Fibrillation Recording Study (WHISH-STAR) 1R01HL136390-01 (PI: Marco V Perez)

Primary Objective: To measure the effect of the WHISH PA intervention on clinical and asymptomatic forms of atrial fibrillation using loop recorders

RENEWAL PROPOSAL submitted in March 2021; Revision to be submitted November 2021

WHISH to Prevent Heart Failure 1R01HL130591-01 (PI: Charles B Eaton)

Primary Objective: To evaluate the effect of the WHISH Physical Activity Intervention on incident and recurrent Heart Failure*, HF with preserved Ejection Fraction (HFpEF) and HF with reduced EF (HFrEF) and CVD mortality in women with antecedent HF, and perform dose-finding analyses in the WHISH PA trial of ~49,000 Women aged 65+ at baseline.

* all HF hospitalizations and CVD death in those with antecedent HF

The imbedded accelerometer study allows for a dose-finding analysis regardless of the RCT results, using newly developed MET–equivalent indices for older women.
Jared Reis, PhD, FAHA
Deputy Chief, Epidemiology Branch
WHI Project Officer
Prevention and Population Sciences Program
Division of Cardiovascular Sciences
National Heart, Lung, and Blood Institute

WHI Investigator Meeting
October 6, 2021
Congratulations on >30 Years of NIH Service

- Retired March 2021
- Remains with NHLBI on a part-time contract
- Reis serving in interim role as search continues for next NHLBI WHI lead
- Likely to continue on a long-term basis

Shari Ludlam, MPH
## FY2021 NHLBI Funding Paylines

<table>
<thead>
<tr>
<th>Grant Program</th>
<th>Percentile</th>
<th>Priority Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R01</td>
<td>15</td>
<td>N/A</td>
<td>Research Project Grant</td>
</tr>
<tr>
<td>ESI</td>
<td>25</td>
<td>N/A</td>
<td>Early Stage Investigators</td>
</tr>
<tr>
<td>K awards</td>
<td>N/A</td>
<td>28</td>
<td>Career Dev’t Awards</td>
</tr>
</tbody>
</table>

*Depending on the availability of funds, the Institute will make funding decisions on competing applications outside of the pay range, through selective pay actions.*

# FY2021 NHLBI Funding Paylines – Zones of Consideration*

<table>
<thead>
<tr>
<th>Grant Program</th>
<th>Description</th>
<th>Zone of Consideration (priority score)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P01</td>
<td>Program Project Grant</td>
<td>10-30</td>
</tr>
<tr>
<td>T32, T35</td>
<td>Institutional NRSA Training</td>
<td>10-35</td>
</tr>
</tbody>
</table>

*A zone of consideration is a range of priority scores within which competing applications will be considered for funding.

**Next NHLBI Advisory Council meeting is October 26, 2021.

1. Addressing social determinants of CVH and health inequities
2. Enhancing resilience.
3. Promoting CVH and preventing CVD across the lifespan.
4. Eliminating hypertension-related CVD.
5. Reducing the burden of heart failure.
6. Preventing vascular dementia.

Trans-NHLBI Women’s Health Working Group
- Co-Chairs: Marrah Lachowicz-Scroggins, PhD; Jasmina Varagic, MD, PhD; Melissa Nagelin, PhD
- Gina Wei, MD, MPH, NHLBI Senior Scientific Advisor for Women’s Health
NHLBI Funding Opportunity Announcements

Notice of Special Interest (NOSI): Promoting Cardiovascular and Cardiometabolic Health in Early Stages of the Lifecourse: Pre-adolescence Through Adolescence to Young Adulthood

Notice Number: NOT-HL-21-015

Key Dates
- Release Date: August 30, 2021
- First Available Due Date: October 3, 2021
- Expiration Date: June 05, 2023

Notice of Special Interest (NOSI): Integrative Omics Analysis of NHLBI TOPMed Data (Parent R01 Clinical Trial Not Allowed)

Notice Number: NOT-HL-21-017

Key Dates
- Release Date: July 3, 2021
- First Available Due Date: October 3, 2021
- Expiration Date: May 08, 2023

Intervention Research to Improve Native American Health (R01 Clinical Trial Optional)

R01 Research Project Grant

Reissue of PAR-17-496 - Intervention Research to Improve Native American Health (R01 Clinical Trial Optional)

<table>
<thead>
<tr>
<th>Workshop Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimal instruments for <strong>measurement of dietary intake, physical activity, and sleep in population-based studies</strong></td>
</tr>
<tr>
<td>Emerging applications of <strong>AI in cardiovascular imaging</strong></td>
</tr>
<tr>
<td>Addressing the <strong>obesity epidemic</strong>: state of the science, research gaps, and future directions for adult obesity prevention and treatment</td>
</tr>
<tr>
<td>Promoting <strong>cardiovascular health of youth in the juvenile justice system</strong> and their transitions outside of the system</td>
</tr>
<tr>
<td>Science of <strong>precision prevention</strong>, clinical applications, research gaps and opportunities to promote cardiovascular health</td>
</tr>
<tr>
<td><strong>Retinal biomarkers</strong> for HTN, HF, PAD, and vascular dementia</td>
</tr>
<tr>
<td><strong>Controversies and opportunities in management of end-stage heart failure</strong></td>
</tr>
</tbody>
</table>
P&P Committee Updates

P&P Committee Chairs

Cyndi Thomson, PhD
Professor Health Promotion Sciences
Mel & Enid Zuckerman College of Public Health

Linda Van Horn, PhD
Chief of Nutrition in the Department of Preventive Medicine
Professor of Preventive Medicine (Nutrition)
P&P Committee Members

2nd Thursday Reviewers
• Cyndi Thomson (Chair)
• Hoda Anton-Culver
• Peggys Dilworth-Anderson
• Lisa Martin
• Kari North
• Mary Jo O’Sullivan
• Electra Paskett
• Ross Prentice
• Stephen Rapp
• Sylvia Smoller
• Beverly Snively
• Lesley Tinker (Co-Chair)
• Jean Wactawski-Wende
• Robert Wallace
• Gretchen Wells

4th Thursday Reviewers
• Linda Van Horn (Chair)
• Amy Millen
• Barbara Howard
• Christy Avery
• Heather Ochs-Balcom
• Jennifer Bea
• Mark Espeland
• Michele Cote
• Nora Franceschini
• Margery Gass
• Kate Hayden (Co-Chair)
• Andrea LaCroix
• Jacques Rossouw
• Sally Shumaker
• Marcia Stefanick
How to develop and publish a WHI paper

• Submit proposal to P&P@WHI.org
• Proposals and papers are reviewed on P&P calls held twice a month
• For more details please visit the WHI website:
• https://www.whi.org/page/propose-a-paper
P&P by the Numbers:

- **Within 2020-2021:**
  - 174 proposals were submitted and reviewed
  - 181 draft manuscripts were submitted and reviewed
  - 202 of the total proposals and manuscripts submitted utilized data from a WHI Ancillary Study
  - 110 WHI papers were published: (2 Highlighted today!)
  - 23 virtual P&P meetings were held
  - 74 abstracts were reviewed and approved
P&P Progress:

• The P&P policy guide was updated with current details and requirements
• New Co-Chair position summer 2022; Start date: Oct. 2022
• WHI Race and Ethnicity Language, Data Application and Data Interpretation Guide (WHI race and Ethnicity Task Force)
  ❖ Pending publication led by Lorena Garcia and Marcia Stefanick
The Race and Ethnicity Task Force wrote: The WHI Race and Ethnicity Guide

- Provides guidance for WHI P&P reviewers, presenters, and authors of WHI manuscripts, abstracts and presentations on language, analytics and interpretation of WHI Race and Ethnicity data.
- Located on the WHI website under Resources – Working with WHI data, or the link below
Association of Major Dietary Protein Sources and Mortality

- Sun, Y. *Journal of American Heart Association*, 2021
- Purpose: Evaluate all-cause and cause-specific mortality across WHI in relation to dietary protein intake and sources animal and plant protein
- OS and CT (exception DM intervention arm)
- FFQ dietary protein – total, animal, plant sources
- Adjudicated mortality including NDI (n = 25, 976)
- Key findings: Higher plant protein intake was associated with a 9% lower risk of overall mortality; 12% lower CVD mortality and 11% lower risk for dementia-associated mortality
Healthy Lifestyle and Clonal Hematopoiesis of Indeterminate Potential (CHIP)

• Haring B., *Journal American Heart Association*, 2021

• Background: human aging associated with somatic mutations (in absence of neoplasia/dysplagia/cytopenia) which can be quantified by CHIP

• Purpose: Evaluate the relationship between healthy lifestyle behaviors and CHIP

• WHI women with deep-coverage, whole-genome sequencing; free of cancer or CVD (n=8709)

• Lifestyle: BMI, smoking (pack-year), diet quality (FFQ AHEI-2010) and physical activity (categorical relevant to recommendations of 150 min. MVPA/week)

• Outcome: CHIP prevalence

• Key findings: Overall CHIP prevalence of 8%; Composite healthy lifestyle score was not associated with CHIP; Normal and overweight BMI, as compared to obese BMI, was associated with a 29% and 17% lower prevalence of CHIP, respectively
Questions?
WHI Ancillary Studies Committee

- WHI ancillary studies increase the value of the resource
  - Tremendous resource to leverage biospecimens, study records and links to Medicare
  - Over 700 ancillary studies have been proposed since the start of WHI
- WHI Ancillary Studies Committee (ASC) reviews proposals monthly and evaluates scientific merit, feasibility, overlap with existing studies and participant burden.

- Committee members:
  - Marian Neuhouser (Chair)  Nora Francescini (Co-Chair)
  - Bob Brunner  Karen Johnson  Gloria Sarto
  - Simin Liu  Lew Kuller  Li Jiao
  - Tim Assimes  Riki Peters  Jenifer Lin
  - Tim Thornton  Eric Whitsel  Chuck Eaton
  - Riki Peters  Gerardo Heiss

- CCC support: Helen Penor (ASC@whi.org)
- https://www.whi.org/page/plan-a-study

Check the link for AS procedures and details
Metrics of success for WHI Ancillary Study and BAA Funding Submissions, by Year of Funding Submission* - Overall success rate is 32%

*Includes resubmissions and multiple awards for the same study
WHI Ancillary and BAAs Awards by NIH Institute, for Funding Submissions 2010-2021 (173 Awarded)
Number of WHI Ancillary Studies Awarded to a First Time Lead Investigator
CHIP R01 Hypothesis: Mutational, inflammatory and metabolic factors that predict the development of Heme Malignancy (HM) can be identified and allow for improved risk assessment. (clonal hematopoiesis of indeterminate potential)

AIM 1: CH mutation patterns that progress to different Heme Malignancies?

AIM 2: How do inflammatory and metabolic abnormalities impact progression of CH to HM?

Expected Outcome: Individuals that progress to HM will have increased prevalence of CH, clonal complexity, and clone size compared to controls.

Expected Outcome: Pro-inflammatory and metabolic factors will favor the progression to HM.

Design: 600 HM cases and 600 controls

NCI R01 CA248747-01A1 Pinkal Desai* (PI)
WHI collaborators : Michael Simon
Alex Reiner

First R01 for Dr. Desai
Epigenetic Aging Biomarkers of Mild Cognitive Impairment (MCI), Alzheimer’s Disease and Related Dementias (ADRD), and Brain Aging in WHIMS

- 5-year (2021-2026) ancillary study funded by NIA (RF1AG074345, PI: Aladdin Shadyab, PhD [Assistant Professor, University of California, San Diego])
- First 3 years of funding awarded at once to profile all samples in one batch (was formerly an R01 and PI’s first NIH award)
- Profile DNA methylation-based blood epigenome at baseline in 2,836 WHIMS women, and both baseline and 14-18 years later in 1,000 WHIMS (WHI Memory Study) women

**Specific Aims:**
- Determine the associations of epigenetic age acceleration with: i) incident MCI and ADRD and ii) survival to age 90 without cognitive impairment
- Determine the associations of epigenetic age acceleration with total and regional brain and white matter lesion volumes
- Identify epigenetic signatures associated with cognitive and neuroimaging phenotypes in epigenome-wide association studies
- Epigenomic data will enrich the existing WHIMS scientific resource and be available to scientific investigators (contact PI Shadyab for collaborations: ahshadya@health.ucsd.edu)
WHI Ancillary Studies Committee

Q & A
Outcomes Adjudication Committee

WHI Investigator Meeting 10/6/2021
OAC Members

- Harold Adams (Stroke)
- Ganesh Asaithambi (Stroke)
- Lindsey Bull (OAC Business)
- Tony Cannistra (CVD)
- Carl Chelius (CVD, DM Stroke)
- Stephanie Connelly (CVD, DM Stroke, Fatal)
- Sherrill Downey (OAC Business)
- Charles Eaton (CVD, Fatal, Fracture, OAC Business)
- Susan Heckbert (CVD, Fatal, OAC Business)
- George Hess (CVD, DM Stroke, Fatal)
- Judith Hsia (CVD, DM Stroke)
- Lisa Johnson (OAC Business)
- Muhib Khan (Stroke)
- Marcia Ko (CVD, DM Stroke, Fracture, OAC Business)
- Charles Kooperberg (OAC Business)
- Marian Limacher (CVD, DM stroke, Fatal, OAC Business)
- Shari Ludlam (OAC Business)
- Kamal Masaki (CVD, Fatal)
- Nandakumar Nagaraja (Stroke)
- Karol Namatame (Cancer)
- Lenore Ocava (Stroke)
- Maryam Sattari (Fracture)
- Carly Schneider (Stroke, OAC Business)
- Brian Silver (Fatal, Stroke, OAC Business)
- Kate Szyperski (Stroke, OAC Business)
- David Tisrchwell (Stroke)
- Emily Wion (OAC Business)
- Jana Wold (Stroke)
Updates

• Addition of COVID-19 to the fatal outcomes form
• Addition of NDI information for fatal outcomes adjudication
• SRC extension for stroke adjudications
  • 2010 – present
  • Cognitive studies (WHISPER, COSMOS Mind, COSMOS Web)
    • [large cognitive study, WHIMS, was among those who would now be in the MRC, and have all stroke reports investigated]
  • Random sample from the full follow-up and deceased
  • 4000-5000 subjects
• Addition of intracranial atherosclerosis to stroke mechanism adjudications (2021 – present)
National Death Index

The NDI is a database of all deaths in the United States

Containing over 100 million death records, the National Death Index (NDI) can help you find out who in your study has died by linking your own research datasets to death certificate information for your study subjects.

- NDI matches your study subjects to U.S. death records
- NDI provides the date and causes of death for your true matches
- You can use the results to calculate life expectancies and adverse risks from specific causes of death

https://www.cdc.gov/nchs/ndi/index.htm
Extracranial internal carotid artery

Extracranial vertebral artery

Basilar artery (intracranial)

Middle cerebral artery (intracranial)
1.6. Trial of Org 10172 in Acute Stroke Treatment (TOAST) Classification

(Mark the **one** category that applies best.)

Large artery atherosclerosis follow-up question:

Mark all that apply.

- Intracranial atherosclerosis
- Extracranial atherosclerosis

<table>
<thead>
<tr>
<th></th>
<th>Probable</th>
<th>Possible</th>
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<tbody>
<tr>
<td>Large artery atherosclerosis</td>
<td></td>
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</tr>
<tr>
<td>(embolus/thrombosis)</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Cardioembolism (high-risk/medium risk)</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Small vessel occlusion (lacune)</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Stroke of other determined etiology</td>
<td>4</td>
<td>10</td>
</tr>
</tbody>
</table>

Stroke of undetermined etiology

- Two or more causes identified | 11 |
- Negative evaluation           | 12 |
- Incomplete evaluation         | 13 |

Cardioembolic follow-up question:

Was the only reason for coding cardioembolic based on either mitral valve prolapse or mitral valve calcification?

- Yes  
- No   (9/30/11 edit)
Thank you for joining the 2021 WHI Investigator Webinar

A recording of this meeting will be available on the WHI website

https://www.whi.org/