General study updates

Annual Progress Report available online

https://www.whi.org/docs/2025-Annual.pdf

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Fred Hutchinson Cancer Center
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Fred Hutch Cancer Center

WOMEN'S HEALTH INITIATIVE

Characteristics of Active Participants

Race/ethnicity	N	%
Hispanic/Latina	1564	3.7
AI/AN	89	0.2
Asian	998	3.7
Native Hawaiian/Pacific Isl.	29	0.1
Black/African American	2834	6.6
White	37711	88.5
More than 1 race	516	1.2
Other/not reported	453	1.1

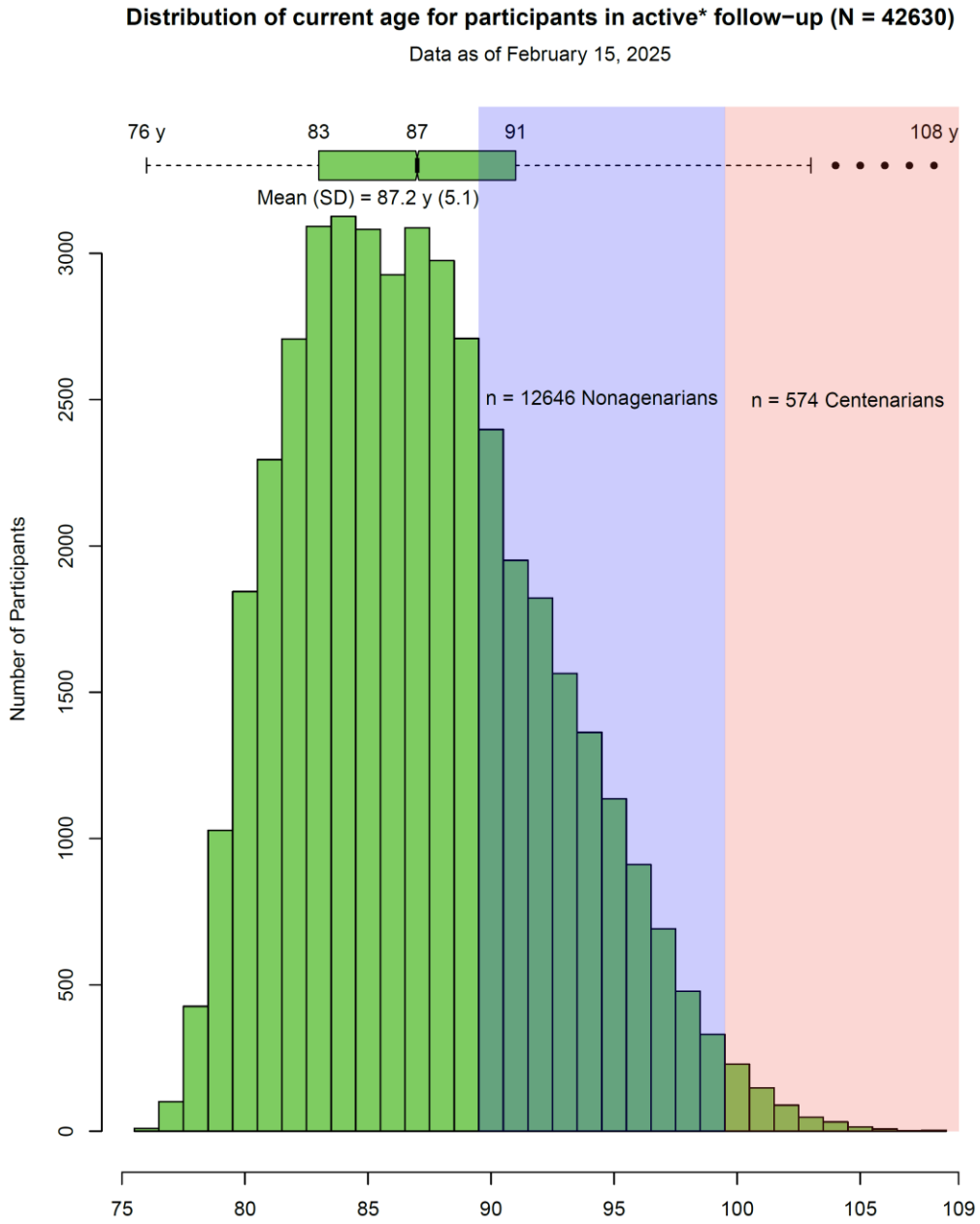


Table 5.1
Long Life Study 2 (LLS2) Consent Status by Cohort

Data as of: February 15, 2025

	Total		Cohort[1]					
			LLS		LILAC		Non-LLS/LILAC MRC	
	N	%	N	%	N	%	N	%
Number eligible	15855	--	4172	--	5104	--	6579	--
Consented[2]	7508	47.4	2214	53.1	2655	52.0	2639	40.1
Completed visit[3]	5905	78.6	1837	83.0	2029	76.4	2039	77.3
Age at visit[4]								
75-79	722	12.2	263	14.3	206	10.2	253	12.4
80-84	2162	36.6	605	32.9	743	36.6	814	39.9
85-89	1835	31.1	445	24.2	696	34.3	694	34.0
90-94	878	14.9	366	19.9	287	14.1	225	11.0
95-99	278	4.7	141	7.7	91	4.5	46	2.3
100+	30	0.5	17	0.9	6	0.3	7	0.3
Race[4,5]								
American Indian/Alaska Native	8	0.1	2	0.1	2	0.1	4	0.2
Asian	53	0.9	0	0.0	17	0.8	36	1.8
Native Hawaiian/Pacific Islander	2	0.0	0	0.0	0	0.0	2	0.1
Black/African American	1053	17.8	743	40.4	25	1.2	285	14.0
White	4581	77.6	969	52.7	1959	96.6	1653	81.1
More than one race	80	1.4	34	1.9	19	0.9	27	1.3
Unknown/Not reported	128	2.2	89	4.8	7	0.3	32	1.6
Ethnicity[4,5]								
Not Hispanic/Latina	5409	91.6	1464	79.7	2007	98.9	1938	95.0
Hispanic/Latina	492	8.3	373	20.3	20	1.0	99	4.9
Unknown/Not reported	4	0.1	0	0.0	2	0.1	2	0.1
Completed blood draw[4]	5509	93.3	1708	93.0	1883	92.8	1918	94.1

Table 5.2
Participant Characteristics for Long Life Study 2 (LLS2) Participants[1] by Race/Ethnicity

Data as of: February 15, 2025

	Total[2]		Race/Ethnicity							
			Hispanic/ Latina		Non-Hispanic Black/African American		Non-Hispanic White		More than one Race	
	N	Mean (SD) or %	N	Mean (SD) or %	N	Mean (SD) or %	N	Mean (SD) or %	N	Mean (SD) or %
LLS2 participants with completed visits	5905		492		1045		4230		65	
Blood draw completed	5509	93.3	467	94.9	939	89.9	3979	94.1	57	87.7
Vision exam completed[3]	3694	99.2	170	98.3	352	99.4	3100	99.3	29	100.0
Age at visit, years	5095	85.2 (5.1)	492	83.6 (5.1)	1045	84.0 (5.0)	4230	85.7 (5.0)	65	85.3 (5.2)
75-79	722	12.2	112	22.8	197	18.9	391	9.2	13	20.0
80-84	2162	36.6	195	39.6	414	39.6	1507	35.6	15	23.1
85-89	1835	31.1	115	23.4	284	27.2	1391	32.9	25	38.5
90-94	878	14.9	54	11.0	111	10.6	695	16.4	8	12.3
≥95	308	5.2	16	3.3	39	3.7	246	5.8	4	6.2
Education	5870	--	486	--	1039	--	4208	--	65	--
0-8 years	29	0.5	8	1.6	9	0.9	12	0.3	0	0.0
Some high school	91	1.6	16	3.3	41	3.9	32	0.8	2	3.1
High school diploma/GED	688	11.7	67	13.8	105	10.1	505	12.0	7	10.8
School after high school	2029	34.6	213	43.8	379	36.5	1394	33.1	28	43.1
College degree or higher	3033	51.7	182	37.4	505	48.6	2265	53.8	28	43.1
Body-mass Index (BMI), kg/m^2	5441	27.1 (5.6)	462	27.0 (4.9)	943	28.7 (6.0)	3913	26.7 (5.5)	56	27.8 (6.9)
< 18.5	135	2.5	6	1.3	14	1.5	112	2.9	2	3.6
18.5 - 24.9	2014	37.0	173	37.4	252	26.7	1536	39.3	17	30.4
25.0 - 29.9	1931	35.5	173	37.4	352	37.3	1358	34.7	22	39.3
30.0 - 34.9	897	16.5	83	18.0	195	20.7	607	15.5	8	14.3
35.0 - 39.9	312	5.7	18	3.9	80	8.5	209	5.3	5	8.9
≥ 40	152	2.8	9	1.9	50	5.3	91	2.3	2	3.6

Table 5.2 (continued)
Participant Characteristics for Long Life Study 2 (LLS2) Participants[1] by Race/Ethnicity

Data as of: February 15, 2025

	Total[2]		Race/Ethnicity							
			Hispanic/ Latina		Non-Hispanic Black/African American		Non-Hispanic White		More than one Race	
	N	Mean (SD) or %	N	Mean (SD) or %	N	Mean (SD) or %	N	Mean (SD) or %	N	Mean (SD) or %
Kyphosis	5544	--	467	--	962	--	3989	--	56	--
No kyphosis (0)	1855	33.5	202	43.3	322	33.5	1283	32.2	16	28.6
Slight kyphosis (1)	2587	46.7	209	44.8	457	47.5	1872	46.9	23	41.1
Moderate kyphosis (2)	958	17.3	48	10.3	150	15.6	733	18.4	15	26.8
Severe kyphosis (3)	144	2.6	8	1.7	33	3.4	101	2.5	2	3.6
Systolic blood pressure, mmHg	5830	128.1 (15.7)	490	126.9 (14.7)	1026	131.5 (15.5)	4177	127.4 (15.8)	64	124.4 (15.2)
≤120	1888	32.4	171	34.9	228	22.2	1439	34.5	26	40.6
120 - 140	2833	48.6	239	48.8	550	53.6	1984	47.5	27	42.2
>140	1109	19.0	80	16.3	248	24.2	754	18.1	11	17.2
Diastolic blood pressure, mmHg	5830	72.9 (9.0)	490	71.8 (8.1)	1026	73.4 (9.5)	4177	72.8 (8.9)	64	73.8 (10.0)
<80	4473	76.7	399	81.4	745	72.6	3229	77.3	49	76.6
80-89	1162	19.9	86	17.6	236	23.0	814	19.5	10	15.6
≥90	195	3.3	5	1.0	45	4.4	134	3.2	5	7.8
Grip strength, kg	5619	13.7 (6.0)	475	13.3 (5.3)	973	15.4 (6.7)	4041	13.3 (5.9)	60	13.1 (5.9)
Repeated chair stands, #stands/sec	4515	0.37 (0.20)	411	0.39 (0.20)	752	0.33 (0.17)	3249	0.38 (0.20)	42	0.32 (0.17)
Walking pace, m/sec	4859	0.58 (0.24)	421	0.60 (0.24)	755	0.48 (0.24)	3576	0.59 (0.23)	44	0.53 (0.22)
Assistive device used on walk test	518	10.7	34	8.1	70	9.3	404	11.3	5	11.6
Look AHEAD SPPB[3]	4083	1.6 (0.5)	365	1.6 (0.5)	644	1.4 (0.5)	2985	1.6 (0.5)	32	1.4 (0.5)
EPESE SPPB[4]	4391	7.5 (2.6)	393	7.7 (2.5)	689	6.8 (2.7)	3209	7.6 (2.6)	40	6.4 (2.6)

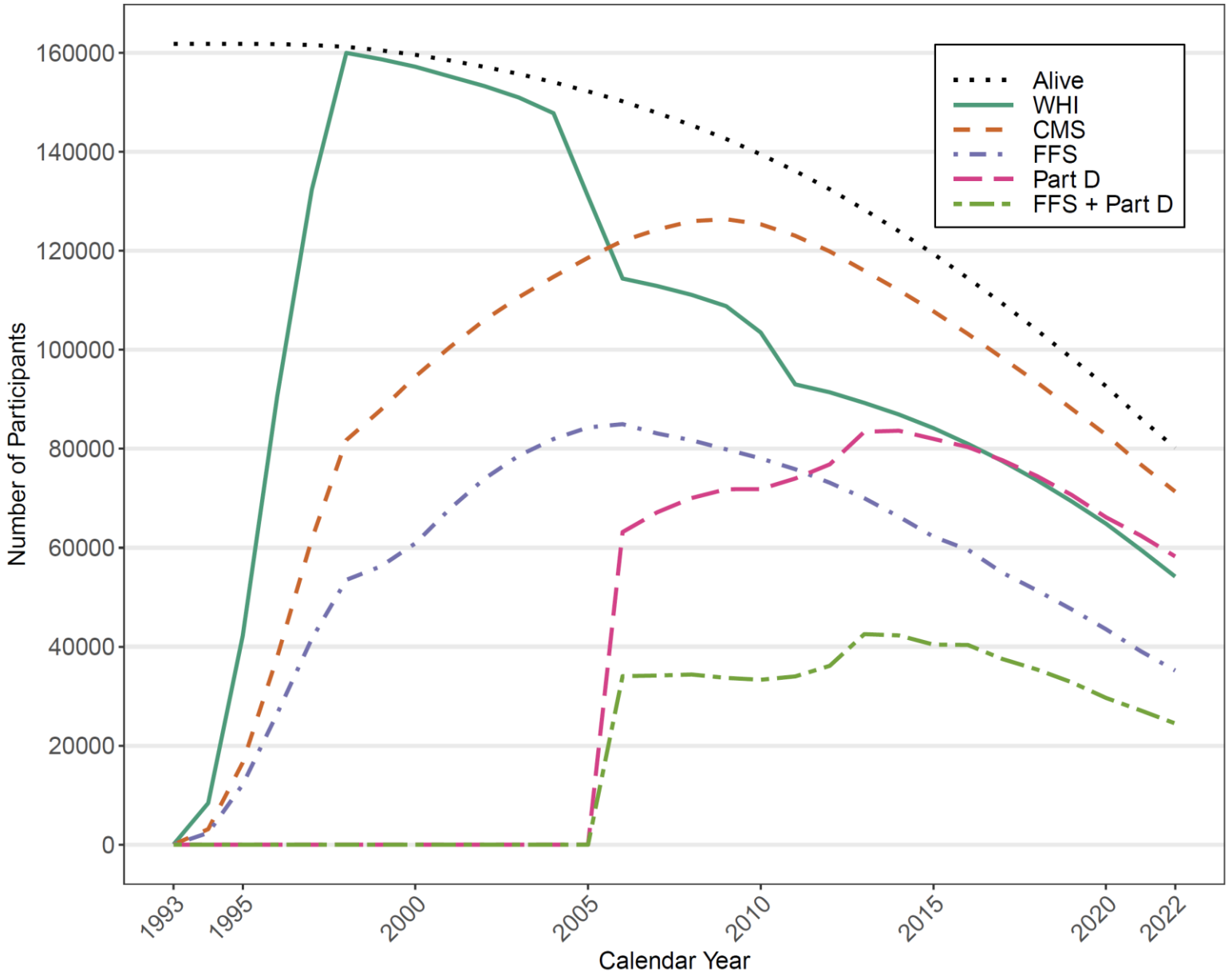
Table 5.5
CBC and Biomarker Results for Long Life Study 2 (LLS2) Participants at the LLS2 Visit by Funding Source

Data as of: February 15, 2025

	Total			Funding Source: WHI Funded			Funding Source: LILAC Funded		
	N	Mean	(SD)	N	Mean	(SD)	N	Mean	(SD)
CBC									
Hemoglobin, g/dL	5173	13.0	(1.3)	3398	12.9	(1.4)	1775	13.2	(1.3)
Hematocrit, %	5174	39.8	(3.8)	3398	39.5	(3.9)	1776	40.2	(3.7)
Red Blood Cell Count, 10^6/ul	5171	4.3	(0.5)	3397	4.3	(0.5)	1774	4.3	(0.5)
Platelet Count, 10^3/ul^	5174	228.8	(66.1)	3398	229.9	(66.3)	1776	226.9	(65.6)
White Blood Cell Count, 10^3/ul^	5174	5.9	(1.8)	3398	5.9	(1.8)	1776	6.0	(1.8)
Neutrophil Count, 10^3/ul^	5161	3.3	(1.6)	3387	3.2	(1.6)	1774	3.4	(1.5)
Neutrophil, %	5167	56.7	(11.8)	3392	55.9	(12.1)	1775	58.3	(11.0)
Basophil Count, 10^3/ul	5167	0.1	(0.0)	3392	0.1	(0.0)	1775	0.1	(0.0)
Basophil, %	5167	1.0	(0.6)	3392	1.0	(0.6)	1775	1.0	(0.6)
Eosinophil Count, 10^3/ul	5167	0.2	(0.2)	3392	0.2	(0.2)	1775	0.2	(0.2)
Eosinophil, %	5167	3.1	(2.4)	3392	3.1	(2.3)	1775	3.2	(2.4)
Monocyte Count, 10^3/ul^	5165	0.5	(0.2)	3391	0.5	(0.2)	1774	0.6	(0.2)
Monocyte, %	5167	9.6	(2.9)	3392	9.5	(2.9)	1775	9.8	(3.0)
Immature Granulocyte Count, 10^3/ul	5167	0.0	(0.0)	3392	0.0	(0.1)	1775	0.0	(0.0)
Immature Granulocyte Fraction, %	5167	0.6	(0.9)	3392	0.6	(1.0)	1775	0.6	(0.9)
Lymphocyte Count, 10^3/ul^	5167	1.6	(0.7)	3392	1.6	(0.7)	1775	1.5	(0.7)
Lymphocyte, %^	5167	27.1	(9.8)	3392	28.0	(10.1)	1775	25.4	(9.0)
Nucleated RBC Count, 10^3/ul	5151	0.0	(0.1)	3383	0.0	(0.1)	1768	0.0	(0.0)
Nucleated RBC, %	5151	0.0	(0.4)	3383	0.0	(0.5)	1768	0.0	(0.1)
Mean Corpuscular Hemoglobin, pg	5166	30.2	(2.2)	3393	30.0	(2.2)	1773	30.6	(2.1)
Mean Corpuscular Hemoglobin, g/dL	5166	32.6	(1.1)	3393	32.6	(1.1)	1773	32.7	(1.0)
Mean Corpuscular Volume, fL	5166	92.6	(5.5)	3393	92.2	(5.6)	1773	93.5	(5.3)
Mean Platelet Volume, fL	5110	11.3	(1.0)	3358	11.4	(1.0)	1752	11.2	(1.0)
Red Cell Distribution Width - CV, %^	5167	13.7	(1.2)	3393	13.8	(1.3)	1774	13.6	(1.2)
Red Cell Distribution Width – Std. Deviation	5171	46.3	(4.2)	3396	46.2	(4.2)	1775	46.5	(4.2)
Inflammatory, lipids and other biomarkers									
C-reactive protein (high sensitivity), mg/L^	5438	1.9	(2.0)	3585	1.9	(2.0)	1853	1.8	(2.0)
Creatinine, mg/dL^	5436	0.9	(0.2)	3586	0.9	(0.3)	1850	0.9	(0.2)
Insulin, pmol/L^	5330	67.1	(55.1)	3516	68.8	(57.5)	1814	64.0	(50.4)
Glucose, mg/dL^	5432	99.0	(22.5)	3583	99.7	(23.8)	1849	97.6	(19.8)
HDL cholesterol, mg/dL	5436	65.4	(17.1)	3586	64.9	(16.9)	1850	66.3	(17.4)
LDL cholesterol, mg/dL	5415	98.3	(34.8)	3569	98.3	(34.9)	1846	98.2	(34.8)
Total Cholesterol, mg/dL	5436	185.4	(40.6)	3586	184.7	(40.7)	1850	186.7	(40.5)
Triglyceride, mg/dL^	5433	99.1	(41.9)	3583	97.7	(41.6)	1850	101.9	(42.3)

Assessing ability to use CMS data to enhance WHI follow-up information

(Figure 6.1 Panel A)



CMS data available among active WHI participants

(Figure 6.1 Panel B)

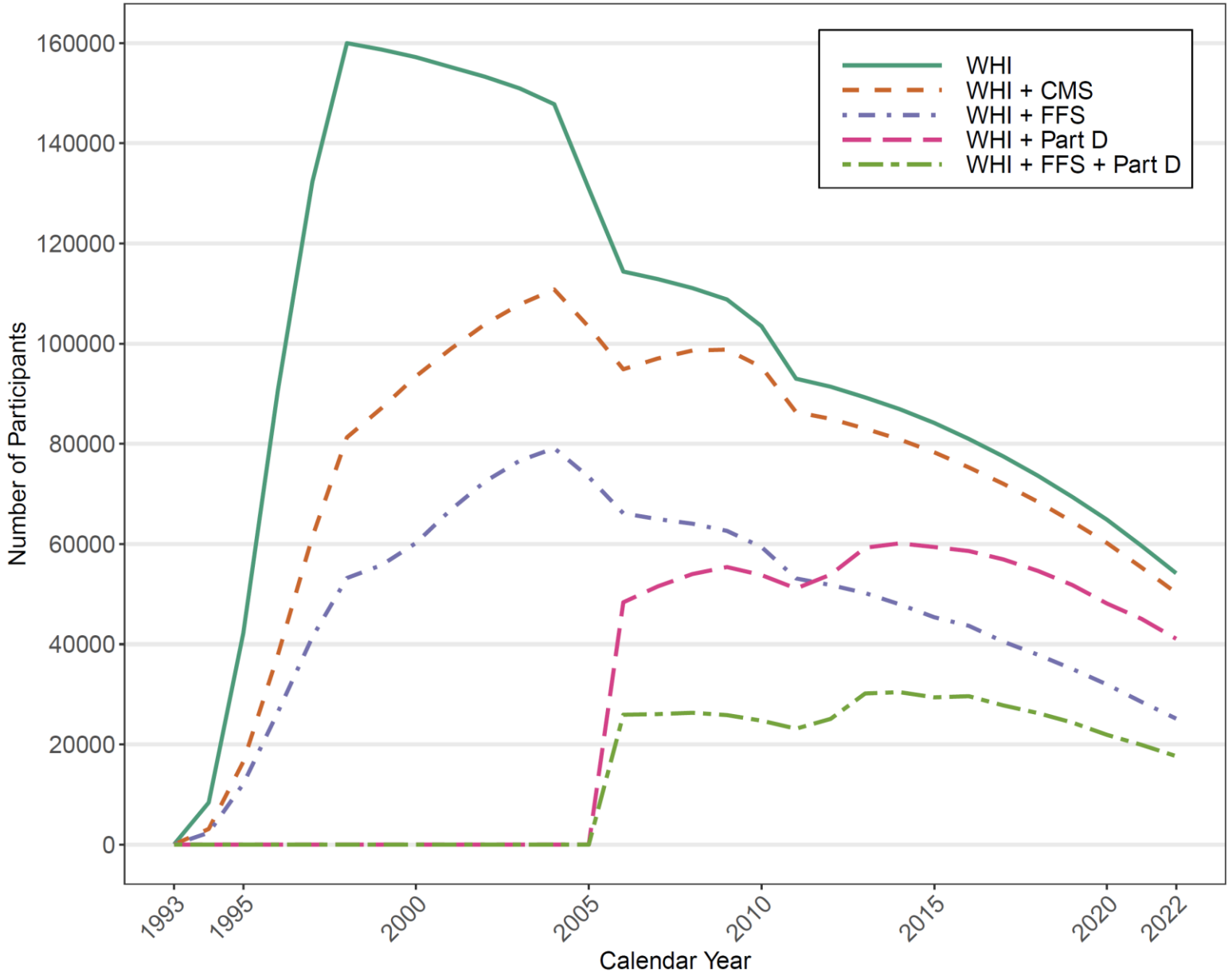


Table 7.1 (continued)
Life and Longevity After Cancer (LILAC) Study Participants and Cancer Treatments Received by Cancer Site and Selected Characteristics

Data as of: February 15, 2025

	Total	Cancer-Directed Surgery				Chemotherapy/Targeted Therapy				Radiation Therapy			
		Surgery Documentation Available[1]	Derived from CMS[2] Claims	Surgery Performed		Chemotherapy Documentation Available[1]	Derived from CMS[2] Claims	Chemotherapy Received		Radiation Documentation Available[1]	Derived from CMS[2] Claims	Radiation Received	
	N	N	%	N	%	N	%	N	%	N	%	N	%
Summary stage													
Localized	9306	8573	37	8086	94.3	8273	40	1268	15.3	8258	40	3694	44.7
Regional	3668	3418	37	2984	87.3	3283	39	1914	58.3	3268	40	1467	44.9
Distant	3372	3256	25	954	29.3	3168	27	2214	69.9	3138	27	573	18.3
Unknown	520	463	37	130	28.1	452	39	222	49.1	450	39	160	35.6
Enrollment type													
Consent enrollment	9573	8740	28	7732	88.5	8604	30	2613	30.4	8593	30	3682	42.8
Partial waiver of consent[3]	7293	6970	42	4422	63.4	6572	46	3005	45.7	6521	46	2212	33.9
Race[4]													
Asian	255	232	26	180	77.6	221	29	94	42.5	224	29	98	43.8
Black/African American	900	836	34	617	73.8	779	38	373	47.9	768	39	311	40.5
White	15344	14302	35	11098	77.6	13853	37	4999	36.1	13800	37	5350	38.8
More than one race	168	155	25	118	76.1	149	26	64	43.0	148	27	61	41.2
Other/Not reported	150	138	30	106	76.8	130	33	67	51.5	131	34	56	42.7
Ethnicity													
Not Hispanic/Latina	16399	15286	34	11824	77.4	14778	37	5439	36.8	14712	37	5745	39.0
Hispanic/Latina	393	354	28	277	78.2	334	31	140	41.9	338	31	128	37.9

Status of cancer virtual pooled registry (VPR) linkage

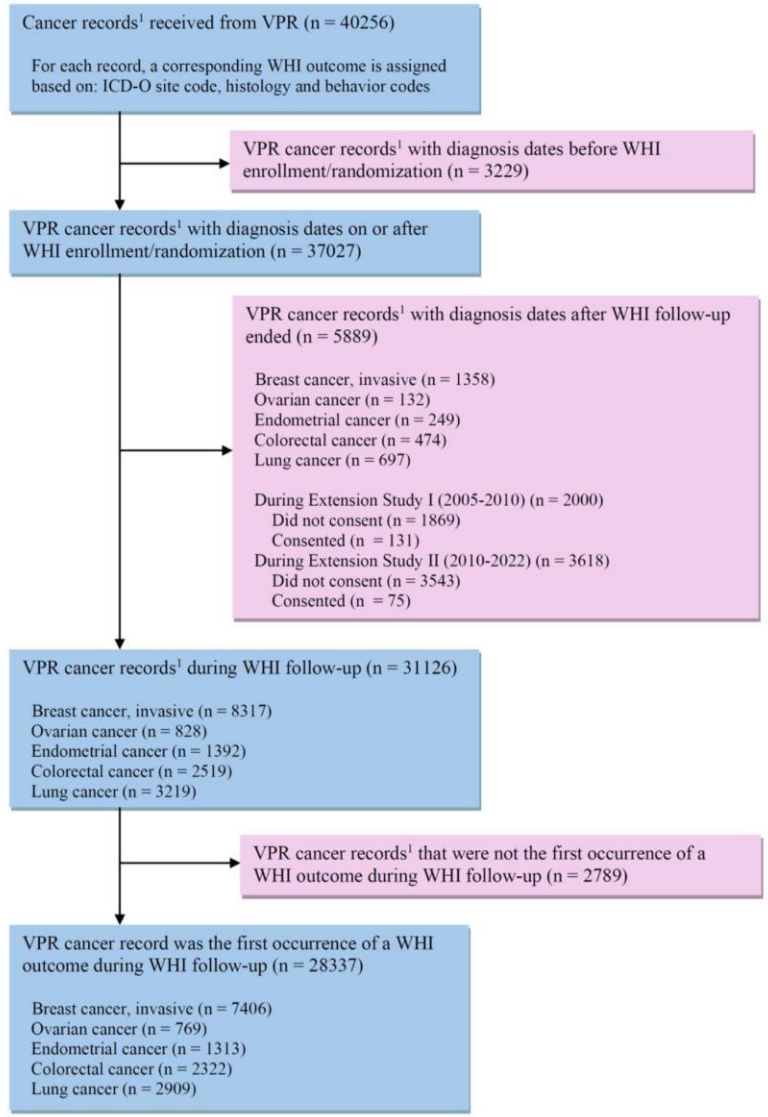
Table 8.1
Status of Virtual Pooled Registry (VPR) Progress

Data as of: February 15, 2025

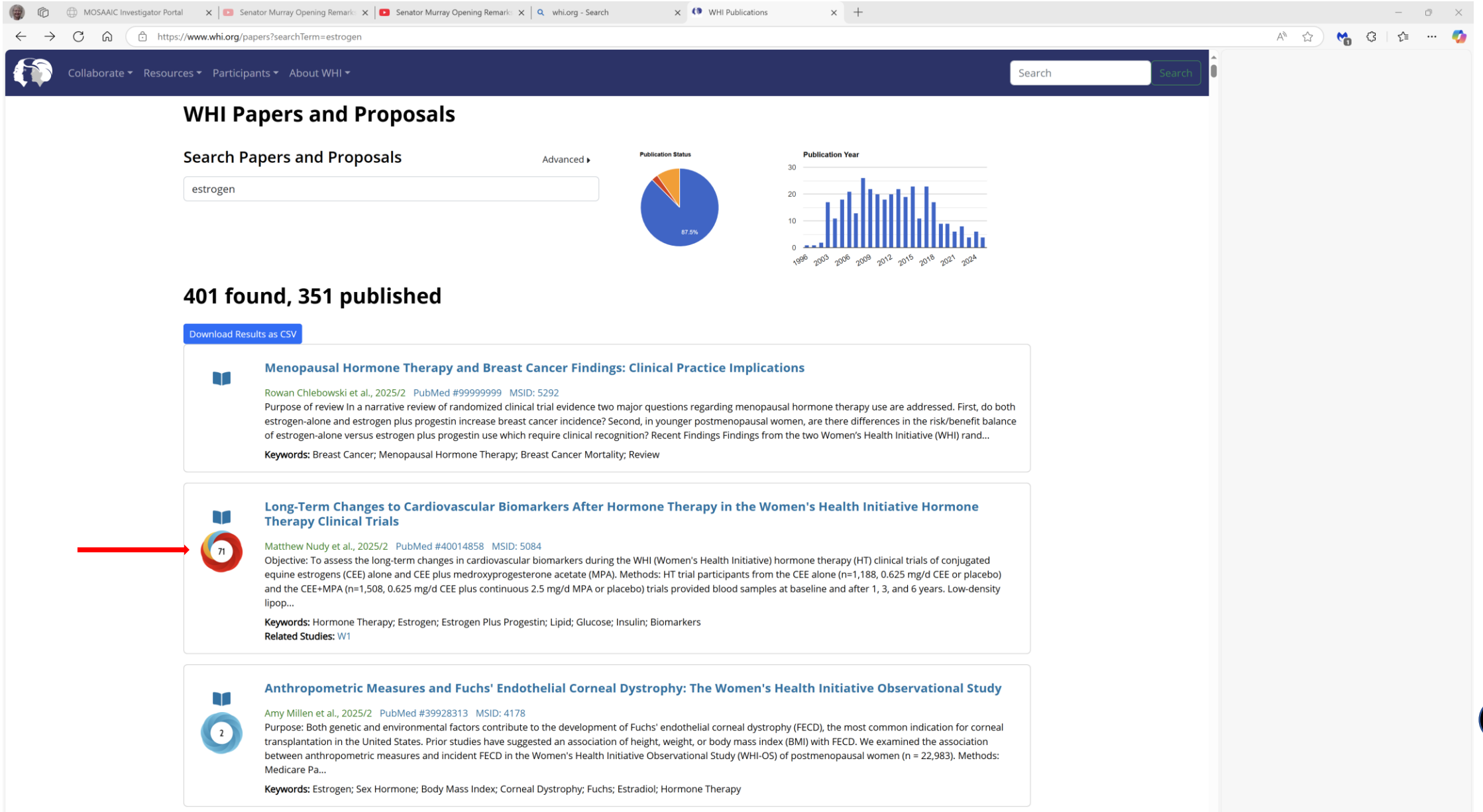
Status	Registries			High Quality Matches[1]		Records Received[2]
	Number of Registries	% of Registries	State Abbreviations	N	%	N
Received data	33	76.7	AL, AK, AZ, CA, CO, CT, GA, ID, IN, IA, KY, LA, ME, MD, MA, MI, MT, NE, NJ, NM, NY, ND, OH, OK, OR, PR, RI, SC, TN, VA, WA (Seattle)[3],WI, WY	40639	84.1	40256
Approvals in place	4	9.3				
Waiting to receive data	1	2.3	HI	1131	2.3	
DUA pending at FHCC	2	4.7	AR, NC	2773	5.7	
DUA pending at registry	1	2.3	TX	2000	4.1	
Approvals under review by external registry/IRB	3	7.0	MS, NH, PA	1626	3.4	
Initial paperwork in progress at WHI CCC	1	2.3	MO	78	0.2	
Not yet started approval process	1	2.3	UT	41	0.1	
Denied	1	2.3	WV	46	0.1	
Total	43	100.0		48334	100.0	40256

Figure 8.1
Virtual Pooled Registry (VPR) Process Flow

Data as of February 15, 2025



Some website enhancements re: publications



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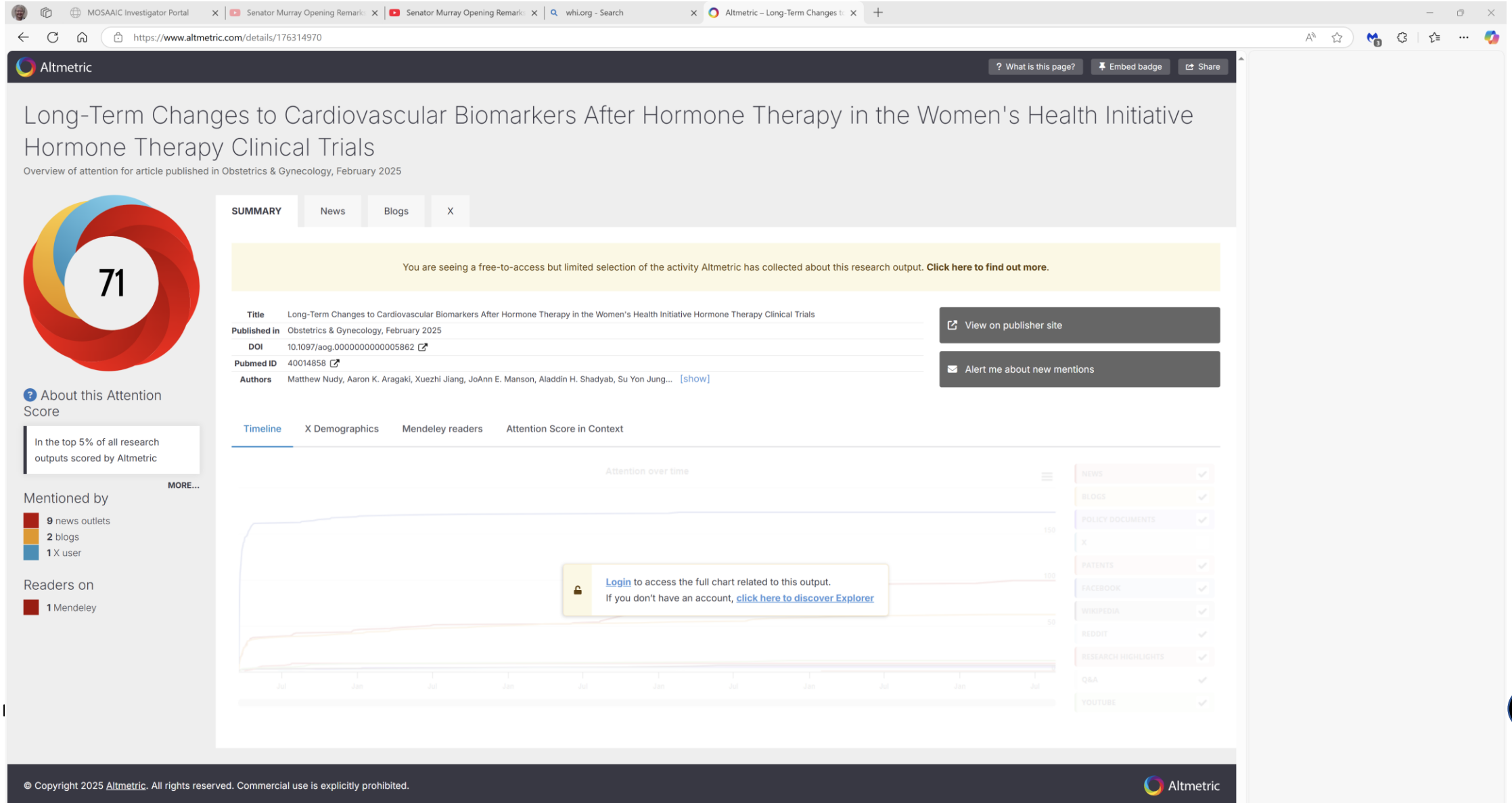


WHI funding update

- April 14: NHLBI informed WHI Principal Investigators in a Zoom call that RC contracts would end at the end of their current fiscal year (September 2025). Funding for the CCC would continue through its fiscal year (January 2026) and after that, the CCC funding was uncertain.
- April 18: this information was relayed to the WHI SC with Program Officers present. NHLBI Acquisition staff did not attend.
- April 21: an acquisition officer confirmed that NIH leadership had approved these budget cuts in an email to the SC
- April 22: WHI staff and investigators were informed
- April 23: Media start to pick up the story
- April 24: Media stated to report that the funding cuts had been reversed

- As of April 30—WHI has not received official documentation of the budget cuts, nor have we received confirmation from NIH that these decisions have been reversed

The last 2 weeks brought . . .

- Widespread and accurate media coverage
- Statements of support, advice, and condolences from colleagues, former staff, professional societies, foundations, potential donors, companies, other stakeholders
- Outreach from two lawmakers
- Attention from some high visibility individuals

Reports of WHI funding cuts

- ACOG: https://www.acog.org/news/news-releases/2025/04/acog-concerned-about-harmful-cuts-to-nihs-womens-health-initiative
- AJMC: https://www.ajmc.com/view/hhs-cuts-funding-for-nih-based-women-s-health-initiative-threatening-decades-long-study
- BioWorld: https://www.bioworld.com/articles/719479-us-hhs-axes-womens-health-research?v=preview
- Contemporary Ob/GYN: https://www.contemporaryobgyn.net/view/nih-to-cut-funding-for-landmark-women-s-health-study
- Democracy Now!: https://www.democracynow.org/2025/4/23/headlines/hhs_slashes_funding_to_womens_health_promotes_lab_leak_theory_of_covid_origins
- Fierce Biotech: https://www.fiercebiotech.com/research/trump-administration-cuts-funding-largest-womens-health-research-initiative-us
- GeekWire: https://www.geekwire.com/2025/landmark-womens-health-study-led-by-fred-hutch-is-targeted-for-cancellation-by-feds/
- Harvard Magazine: https://www.harvardmagazine.com/2025/04/harvard-joann-mason-brigham-womens-hospital-funding-cuts
- Health Policy Watch: https://healthpolicy-watch.news/us-food-industry-to-phase-out-petroleum-based-dyes-while-womens-health-initiative-faces-government-funding-reductions/
- MSN: https://www.msn.com/en-us/health/other/landmark-women-s-health-study-led-by-fred-hutch-is-targeted-for-cancellation-by-feds/ar-AA1Dtzk7
- **MSNBC: https://m.youtube.com/watch?v=z7Hy_NSZgWo**
- NPR: https://www.npr.org/2025/04/23/nx-s1-5372892/womens-health-initiative-research-funding-gets-cut
- NYT: https://www.nytimes.com/2025/04/24/health/womens-health-initiative-cuts.html
- **Science: https://www.science.org/content/article/nih-cancels-its-first-and-largest-study-centered-women**
- Sen. Patty Murray: https://www.murray.senate.gov/devastating-loss-senator-murray-slams-trump-gutting-womens-health-initiative-whi-is-the-largest-and-most-influential-national-study-of-womens-health/
- Stat News: https://www.statnews.com/2025/04/22/womens-health-initiative-hormone-therapy-trials-losing-federal-funding/
- USC Annenberg Media: https://www.uscannenbergmedia.com/2025/04/23/hhs-announces-funding-cuts-for-womens-health-initiative/
- **Vajenda Substack: https://vajenda.substack.com/p/the-whi-is-endingyou-should-be-furious**

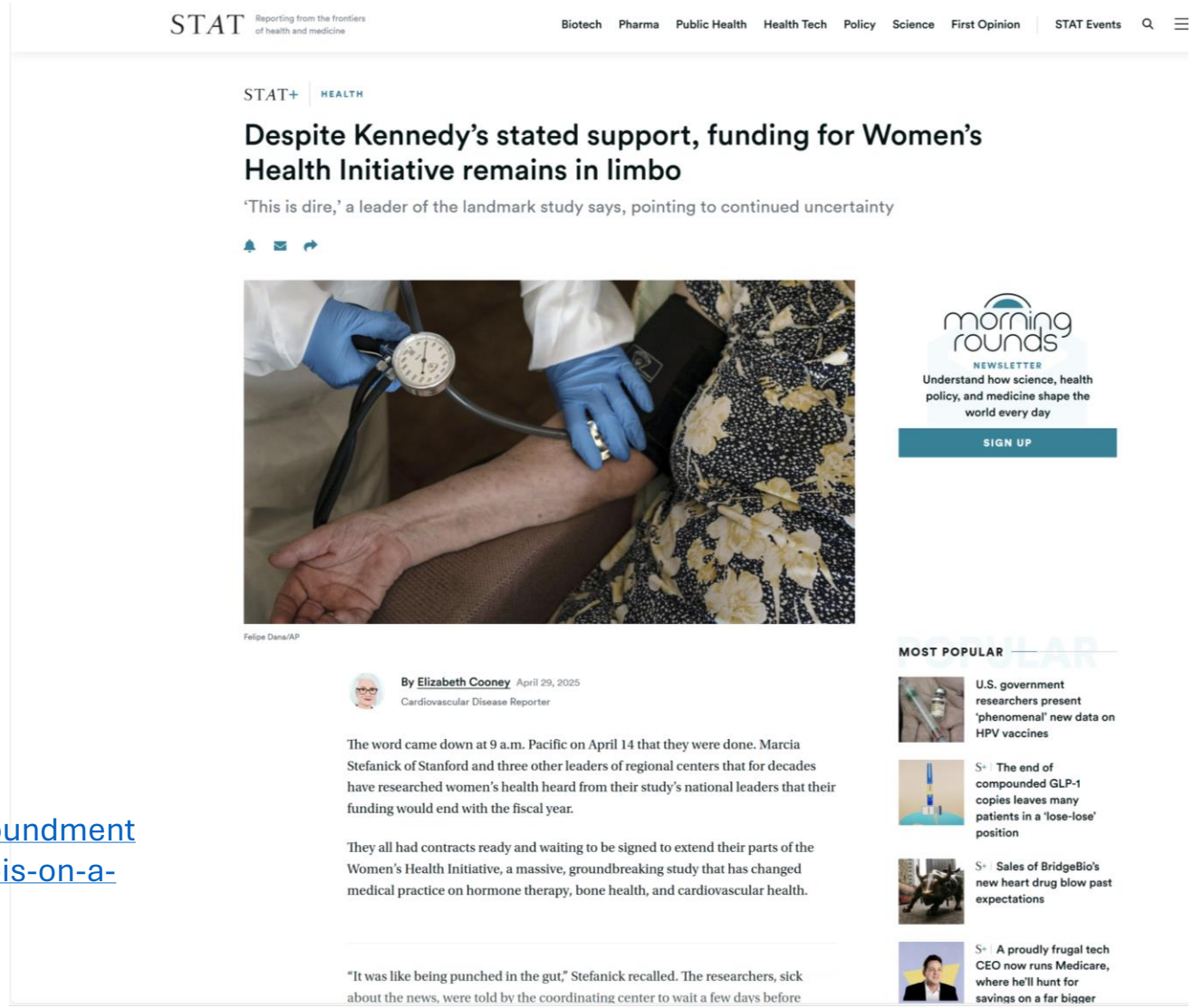
Reports of WHI funding being restored:

- ABC News: https://abcnews.go.com/GMA/Wellness/trump-administration-restore-funding-womens-health-initiative/story?id=121127530
- CNN: https://www.cnn.com/2025/04/24/health/womens-health-initiative-hhs-funding-cut-reversal/index.html
- KCRA: https://www.kcra.com/article/stanford-researcher-womens-health-initiative/64594513
- MedPage Today: https://www.medpagetoday.com/publichealthpolicy/washington-watch/115281
- NPR: https://www.npr.org/sections/shots-health-news/2025/04/24/nx-s1-5376473/hhs-restores-funding-for-womens-health-initiative
- Nutra Ingredients: https://www.nutraingredients-usa.com/Article/2025/04/25/womens-health-initiative-funding-canceled-not-canceled/
- NYT: https://www.nytimes.com/2025/04/24/health/womens-health-initiative-cuts.html
- Society for Women's Health Research: https://swhr.org/swhr-statement-on-hhs-decision-to-restore-womens-health-initiative-funding/
- Stat News: https://www.statnews.com/2025/04/24/womens-health-initiative-hhs-now-says-funding-to-be-restored/
- TCTMD: https://www.tctmd.com/news/funding-womens-health-initiative-imperiled-appears-secure-now

Yesterday . . .

[Senator Murray Opening Remarks at Appropriations Hearing on Biomedical Research]

[Issues for the larger research enterprise—Default Impoundment https://donmoynihan.substack.com/p/the-nih-budget-is-on-a-fast-track]



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Despite Kennedy's stated support, funding for Women's Health Initiative remains in limbo

'This is dire,' a leader of the landmark study says, pointing to continued uncertainty

Felipe Dana/AP

By Elizabeth Cooney April 29, 2025
Cardiovascular Disease Reporter

The word came down at 9 a.m. Pacific on April 14 that they were done. Marcia Stefanick of Stanford and three other leaders of regional centers that for decades have researched women's health heard from their study's national leaders that their funding would end with the fiscal year.

They all had contracts ready and waiting to be signed to extend their parts of the Women's Health Initiative, a massive, groundbreaking study that has changed medical practice on hormone therapy, bone health, and cardiovascular health.

"It was like being punched in the gut," Stefanick recalled. The researchers, sick about the news, were told by the coordinating center to wait a few days before

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Moving forward . . .

- We will act publicly as if WHI funding is not secure, until informed otherwise
  - Hope for the best but prepare for the worst
  - We have reason to be hopeful
- WHI's strong reputation has earned us the attention that few other studies can achieve, but . . .
  - We should anticipate that funding mechanisms and opportunities may change
  - Future support requires specific plans for new, important research

What is our vision for the future of WHI?

What are the most important research questions . . .

- regarding women in the 9th and 10th decades of life?
- that our existing database and biorepository can address?

What would be lost if WHI was not renewed?

Are there other major research efforts that the WHI community should propose?