Supplementary Online Content

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Characteristics of Study Participants at Baseline, by Race and Ethnicity[*]

| Baseline Characteristic | Race / Ethnicity | | | | | | | | p-value[†] |
| | Asian (n=1486) | | Black (n=5927) | | Hispanic (n=2545) | | White (n=57211) | | |
	n	%[1]	n	%[1]	n	%[1]	n	%[1]	
Age, years, mean (SD)	57.3	(4.2)	57.4	(4.2)	56.9	(4.2)	57.9	(4.1)	<0.001
Body mass index, kg/m^2, mean (SD)	25.3	(4.8)	31.4	(6.8)	29.0	(5.6)	27.7	(5.9)	<0.001
< 25	825	55.5	922	15.6	620	24.4	21392	37.4	
25 - < 30	462	31.1	1904	32.1	988	38.8	19312	33.8	
≥ 30	193	13.0	3064	51.7	918	36.1	16221	28.4	
Physical function score, mean (SD)	88.5	(14.9)	79.0	(22.4)	82.9	(20.6)	85.9	(16.9)	<0.001
Smoking									<0.001
Never	1043	70.2	2832	47.8	1547	60.8	27458	48.0	
Past	363	24.4	2304	38.9	788	31.0	25214	44.1	
Current	73	4.9	702	11.8	176	6.9	4011	7.0	
Alcohol Use									<0.001
Never	428	28.8	877	14.8	432	17.0	4053	7.1	
Past	308	20.7	1783	30.1	504	19.8	8460	14.8	
Current (≥ 1 drink/month)	746	50.2	3198	54.0	1577	62.0	44420	77.6	
Hormone therapy use[‡]	880	59.2	2324	39.2	1283	50.4	32989	57.7	<0.001
Daily oral glucocorticoid use[§]	2	0.1	37	0.6	7	0.3	147	0.3	<0.001
Falls in the Past Year									<0.001
0	1149	77.3	4017	67.8	1615	63.5	35871	62.7	
1	224	15.1	1036	17.5	457	18.0	11045	19.3	
2	59	4.0	410	6.9	181	7.1	4670	8.2	
≥3	28	1.9	173	2.9	109	4.3	2511	4.4	
History of fracture ≥ age 55									<0.001

[*] Missing data: BMI, n=348; physical function, n=838; smoking, n=658; alcohol, n=383; falls in the past year, n=3614; history of fracture ≥ 55, n=3166; parental history of hip fracture, n=2683; early menopause, n=3651; rheumatoid arthritis, n=2179; malabsorption, n=2471; liver disease, n=2; emphysema, n=5061

[†] p-value comparing demographics by race/ethnicity groups from t-tests for continuous demographic variables and Chi-square tests for categorical demographic variables.

[‡] Hormone use incorporates both a participant's self-report status at baseline as well as her intervention assignment in the Women's Health Initiative Hormone Therapy trial. Women assigned to active hormone therapy intervention were categorized as 'Yes' for hormone therapy use while women assigned to placebo were categorized as 'No'. Women not in the Hormone Therapy trial were assigned their baseline self-report hormone use.

[§] Glucocorticoid use defined as ≥ 3 months of oral daily use of ≥ 5 mg prednisone or equivalent

| Baseline Characteristic | Race / Ethnicity | | | | | | | | |
| | Asian (n=1486) | | Black (n=5927) | | Hispanic (n=2545) | | White (n=57211) | | |
	n	%¹	n	%¹	n	%¹	n	%¹	p-value†
Yes	49	3.3	153	2.6	79	3.1	2527	4.4	
No	968	65.1	3838	64.8	1473	57.9	38867	67.9	
Not Applicable (<55 years old)	441	29.7	1683	28.4	849	33.4	13076	22.9	
Parental History of Hip Fracture	147	9.9	283	4.8	209	8.2	7067	12.4	<0.001
Early menopause (<45 years old)	241	16.2	1696	28.6	515	20.2	11005	19.2	<0.001
History of rheumatoid arthritis	60	4.0	384	6.5	119	4.7	1915	3.3	<0.001
History of malabsorption*	0	0.0	20	0.3	13	0.5	160	0.3	<0.001
History of liver disease	30	2.0	82	1.4	48	1.9	1363	2.4	<0.001
History of emphysema	20	1.3	187	3.2	57	2.2	1457	2.5	<0.001
FRAX predicted 10-year risk	4.1	(2.1)	2.8	(1.3)	3.7	(1.9)	7.7	(4.0)	<0.001
< 8.4	1403	94.4	5899	99.5	2458	96.6	41878	73.2	
≥ 8.4	83	5.6	28	0.5	87	3.4	15333	26.8	
OST osteoporosis risk	0.82	(2.5)	4.9	(3.9)	2.8	(3.1)	2.9	(3.3)	<0.001
< 2	1083	72.9	1133	19.1	1045	41.1	22940	40.1	
≥ 2	403	27.1	4794	80.9	1500	58.9	34271	59.9	

* Self-report of special diet prescribed for malabsorption, celiac sprue, ulcerative colitis, or Crohn's disease

eTable 2. Area Under the Receiver Operating Characteristic Curve (AUC) Values for Fracture Risk Assessment (FRAX) and Osteoporosis Self-assessment Tool (OST) in Estimating 10-Year Risk of Major Osteoporotic Fractures (MOF)[*]

Race / Ethnicity	n	Events	FRAX AUC (95% CI) [†]	OST AUC (95% CI)
All Participants	67169	5594	0.59 (0.59, 0.60)	0.55 (0.54, 0.56)
Asian	1486	79	0.65 (0.58, 0.71)	0.62 (0.56, 0.69)
Black	5927	275	0.55 (0.52, 0.59)	0.53 (0.50, 0.57)
Hispanic	2545	204	0.61 (0.56, 0.65)	0.58 (0.54, 0.62)
White	57211	5036	0.59 (0.58, 0.59)	0.55 (0.54, 0.56)

[*] All models are adjusted for current hormone therapy use (yes/no) and the Calcium plus Vitamin D Trial intervention assignment (active, placebo, not randomized).

[†] p-values for AUC comparisons are as follows.

FRAX: Asian vs. Black, p=0.01; Asian vs. Hispanic, p=0.31; Asian vs. White, p=0.08; Black vs. Hispanic, p=0.06; Black vs. White, p=0.06; Hispanic vs. White, p=0.39.

OST: Asian vs. Black, p=0.02; Asian vs. Hispanic, p=0.27; Asian vs. White, p=0.04; Black vs. Hispanic, p=0.12; Black vs. White, p=0.34; Hispanic vs. White, p=0.24.

FRAX vs. OST: All Participants, p<0.001; Asian, p=0.59; Black, p=0.50; Hispanic, p=0.35; White, p<0.001;

p-values from a Chi-square statistic on 1 degree of freedom testing the difference between each paired group.

eTable 3. Area Under the Receiver Operating Characteristic Curve (AUC) Values for Fracture Risk Assessment (FRAX) and Osteoporosis Self-assessment Tool (OST) in Predicting 10-Year Risk of Major Osteoporotic Fractures (MOF)— Sensitivity Analyses Excluding Clinical Spine Fracture[*]

			FRAX	OST
Race / Ethnicity	**n**	**Events**	**AUC (95% CI) [†]**	**AUC (95% CI)**
All Participants	66951	4553	0.59 (0.58, 0.60)	0.55 (0.54, 0.56)
Asian	1482	61	0.67 (0.60, 0.75)	0.64 (0.57, 0.72)
Black	5911	238	0.55 (0.51, 0.59)	0.52 (0.49, 0.56)
Hispanic	2537	166	0.60 (0.56, 0.65)	0.59 (0.55, 0.63)
White	57021	4088	0.59 (0.58, 0.60)	0.56 (0.55, 0.57)

[*] All models are adjusted for current hormone therapy use (yes/no) and the Calcium plus Vitamin D Trial intervention assignment (active, placebo, not randomized). In this table, the MOF outcome includes hip, forearm, and shoulder fractures.

eTable 4. Observed and Expected Major Osteoporotic Fractures (MOF) by Quantile of Estimated Risk, by Race and Ethnicity

| Race / Ethnicity | Quintile | Major Osteoporotic Fracture | | | | | | | |
| | | FRAX | | | | OST | | | |
		n	Obs[*]	Pred	Obs / Pred	n	Obs	Pred	Obs / Pred
All Participants	1	13436	0.055	0.058	0.95	13416	0.073	0.068	1.08
	2	13441	0.068	0.068	1.00	12128	0.072	0.073	0.99
	3	13422	0.073	0.077	0.95	14903	0.073	0.077	0.94
	4	13438	0.096	0.090	1.06	12904	0.093	0.096	0.96
	5	13432	0.124	0.123	1.01	13818	0.106	0.101	1.05
	Total[†]	67169	0.083	0.083	1.00	67169	0.083	0.083	1.00
Asian	1	295	0.031	0.025	1.20	293	0.031	0.026	1.18
	2	301	0.033	0.038	0.88	274	0.040	0.042	0.96
	3	296	0.041	0.045	0.90	283	0.039	0.048	0.81
	4	298	0.054	0.063	0.85	314	0.067	0.059	1.14
	5	296	0.108	0.094	1.15	322	0.084	0.087	0.97
	Total	1486	0.053	0.053	1.00	1486	0.053	0.053	1.00
Black	1	1186	0.036	0.036	1.00	1184	0.036	0.038	0.97
	2	1188	0.042	0.043	0.98	1215	0.044	0.044	1.02
	3	1183	0.044	0.048	0.92	1103	0.047	0.050	0.95
	4	1186	0.050	0.050	1.00	1220	0.051	0.050	1.01
	5	1184	0.060	0.055	1.08	1205	0.053	0.051	1.04
	Total	5927	0.046	0.046	1.00	5927	0.046	0.046	1.00
Hispanic	1	508	0.053	0.048	1.10	480	0.056	0.055	1.02
	2	510	0.053	0.061	0.87	544	0.057	0.064	0.89
	3	509	0.073	0.075	0.97	520	0.085	0.075	1.13
	4	509	0.092	0.092	1.00	521	0.100	0.101	0.99
	5	509	0.130	0.125	1.04	480	0.104	0.107	0.98
	Total	2545	0.080	0.080	1.00	2545	0.080	0.080	1.00
White	1	11448	0.059	0.063	0.95	10783	0.073	0.072	1.02
	2	11435	0.072	0.070	1.03	12691	0.071	0.076	0.94
	3	11461	0.082	0.083	0.98	10902	0.083	0.079	1.04
	4	11430	0.099	0.097	1.02	12285	0.108	0.105	1.02
	5	11437	0.128	0.127	1.01	10550	0.106	0.108	0.98
	Total	57211	0.088	0.088	1.00	57211	0.088	0.088	1.00

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[*] Obs: observed fractures; Pred: predicted fractures; FRAX: Fracture Risk Assessment Tool; OST: Osteoporosis Self-Assessment Tool
[†] "Total" obs/pred ratio based on full model sample will always be 1

eTable 5. Area Under the Receiver Operating Characteristic Curve (AUC) Values for Fracture Risk Assessment (FRAX) and Osteoporosis Self-assessment Tool (OST) in Predicting 10-Year Risk of Major Osteoporotic Fractures (MOF)—Sensitivity Analyses[*]

	Race / Ethnicity	n	Events	FRAX AUC (95% CI)	OST AUC (95% CI)
Original Results (n=67169)	All Participants	*67169*	*5594*	*0.59 (0.59, 0.60)*	*0.55 (0.54, 0.56)*
	Asian	*1486*	*79*	*0.65 (0.58, 0.71)*	*0.62 (0.56, 0.69)*
	Black	*5927*	*275*	*0.55 (0.52, 0.59)*	*0.53 (0.50, 0.57)*
	Hispanic	*2545*	*204*	*0.61 (0.56, 0.65)*	*0.58 (0.54, 0.62)*
	White	*57211*	*5036*	*0.59 (0.58, 0.59)*	*0.55 (0.54, 0.56)*
Never HT Users[†] (n=21313)	All Participants	21313	2075	0.59 (0.58, 0.60)	0.53 (0.51, 0.54)
	Asian	442	30	0.69 (0.59, 0.78)	0.64 (0.54, 0.74)
	Black	2828	142	0.55 (0.51, 0.60)	0.53 (0.49, 0.58)
	Hispanic	969	94	0.60 (0.54, 0.66)	0.53 (0.47, 0.59)
	White	17074	1809	0.57 (0.55, 0.58)	0.51 (0.50, 0.53)
Excluding users of osteoporosis medication during follow-up [‡] (n=60135)	All Participants	60135	4677	0.59 (0.58, 0.60)	0.55 (0.54, 0.56)
	Asian	1261	61	0.62 (0.54, 0.69)	0.59 (0.52, 0.67)
	Black	5677	256	0.56 (0.52, 0.59)	0.54 (0.51, 0.58)
	Hispanic	2351	176	0.60 (0.55, 0.64)	0.58 (0.54, 0.63)
	White	50846	4184	0.58 (0.57, 0.59)	0.55 (0.55, 0.56)

[*] All models are adjusted for current hormone therapy use (yes/no) and the Calcium plus Vitamin D Trial intervention assignment (active, placebo, not randomized).
[†] Participants who self-reported never using hormone therapy (HT) at Women's Health Initiative study enrollment and were then either randomized to placebo HT or not enrolled in the HT trial.
[‡] Participants self-reporting exclusion criteria osteoporosis medications at Year 1, 3, 6, or 9 medication visits.

eTable 6. Area Under the Receiver Operating Characteristic (AUC) Curve Values for Fracture Risk Assessment (FRAX) and Osteoporosis Self-assessment Tool (OST) in Estimating Femoral Neck BMD T Score ≤−2.5—Sensitivity Analysis in BMD Subset[*]

Sensitivity Analysis	Race / Ethnicity	n	Events	FRAX AUC (95% CI)	OST AUC (95% CI)
Original Results	All Participants	4607	235	0.72 (0.68, 0.75)	0.83 (0.80, 0.85)
	Black	628	14	0.74 (0.61, 0.87)	0.85 (0.74, 0.96)
	Hispanic	320	14	0.74 (0.60, 0.88)	0.79 (0.65, 0.93)
	White	3642	206	0.72 (0.68, 0.75)	0.82 (0.80, 0.85)
Never HT Users[†]	All Participants	1567	110	0.73 (0.68, 0.77)	0.82 (0.78, 0.85)
	Black	278	7	0.78 (0.63, 0.94)[‡]	0.86 (0.68, 1.00)[‡]
	Hispanic	132	10	0.76 (0.62, 0.90)	0.85 (0.73, 0.96)
	White	1154	93	0.73 (0.68, 0.78)	0.80 (0.76, 0.84)
Excluding follow-up OP users, Method A[§]	All Participants	4185	163	0.71 (0.67, 0.75)	0.83 (0.80, 0.85)
	Black	615	14	0.75 (0.62, 0.75)	0.85 (0.74, 0.96)
	Hispanic	293	10	0.73 (0.57, 0.88)	0.81 (0.67, 0.96)
	White	3262	138	0.72 (0.67, 0.76)	0.82 (0.79, 0.85)

[*] All models are adjusted for current hormone therapy use (yes/no) and the Calcium plus Vitamin D Trial intervention assignment (active, placebo, not randomized). Because there was only one Asian participant who had femoral neck BMD ≤ -2.5, we do not display results for Asian participants.
[†] Participants who self-reported never using hormone therapy (HT) at Women's Health Initiative study enrollment and were then either randomized to placebo HT or not enrolled in the HT trial.
[‡] Questionable model fit
[§] Participants self-reporting exclusion criteria Osteoporosis medications at Year 1, 3, 6, or 9 medication visits.