Supplemental Material

Supplemental Table 1: Inclusion and exclusion criteria.

| Inclusion | Exclusion |
|-----------|-----------|
| 60-74 years | A Southwest Oncology Group performance status score >1, indicating impairment in general well-being and activities of daily life |
| Any sex | Active liver or kidney disease (alanine aminotransferase, alkaline phosphatase, bilirubin or urea two standard deviations above the normal reference range) |
| Healthy volunteers | Previous diagnosis of cancer (excluding non-melanoma skin cancer) |
| World Health Organization performance status 0 or 1 | Diagnosed HIV infection |
| No active liver- or kidney disease (serum alanine aminotransferase (ALAT), alkaline phosphatase, bilirubin, creatinine or urea within 2 S.D of laboratory reference range) | Receiving immunosuppressive therapy |
| No previous cancer diagnosis | Unable to understand written and spoken information |
| No known HIV-infection | Receiving ≥50 µg/d of selenium supplements in the previous 6 months (by patient report). |

Participant must understand oral and written information

Participant must not use selenium supplementation of above 50 µg/d

Participant must give written consent prior to inclusion

Sensitivity Analyses

After removal of users of systemic GC (n = 4), systemic or inhaled GC, antiresorptive or thyroid medication (n = 53), supplements (n = 215) or AR at baseline, 6 months and 5 years or with fractures (n=14), selenium supplementation did not have a significant effect on any of the BTMs at either time point (Supplemental Tables 3,4,6,7). After removal of HRT users (n = 75), 200 µg supplementation had a significant effect on BALP at 6 months (P = 0.041, η2 = 0.013), but not overall dosage (Supplemental Table 5). A final sensitivity analysis was performed that was limited to participants with a baseline plasma selenium status below 70 µg/L (12% of the population). Concentrations of CTX at 5 years significantly differed in a linear trend (P = 0.011) between dosages in those participants with a baseline selenium status below 70 µg/L (P = 0.045, η2 = 0.036) where 200 and 300 µg dosages led to a linear reduction in CTX compared to the placebo (P = 0.011, η2 = 0.282 and P = 0.020, η2 = 0.243, for each dose, respectively) (Supplemental Table 8).
Supplemental Table 2: Bone turnover markers and evidence for feasibility to estimate bone health (adapted from Burch et al. 2014 (35)).

| Bone turnover marker | Function | Evidence | Reference |
|-----------------------|----------|----------|-----------|
| OC                    | Formation Characterises osteoblastic activity Bone specific marker | More closely associated with SePP than PINP Increases with growth and fracture recovery Low within person variability Lower in those using corticosteroids | (28,35) |
| PINP                  | Formation Characterises osteoblastic activity Precursor of collagen type 1 made by osteoblasts | Associated with selenium and SePP Recommended by IOF and IFCC More sensitive than other BTMs and less affected by feeding status and diurnal variation | (28, 35, 36) |
| CTX                   | Resorption Characterises osteoclastic activity and hydrolysis of collagen | Associated with selenium and SePP Recommended by IOF and IFCC More responsive that other BTMs with bisphosphonates | (28, 35, 36) |
| BALP                  | Formation Characterises osteoblastic activity Marker of mineralisation Plays role by promoting hydroxyapatite crystal growth Corresponds to high osteoblastic activity | Review of usefulness of BALP; low variability, useful for follow up studies Low biological and diurnal variation Increases during fracture recovery, Paget’s disease, rickets, osteocalcin, osteoporosis, vascular calcification, chronic kidney disease | (35, 37) |

OC: osteocalcin; PINP: procollagen type 1 N-terminal propeptide; CTX: collagen type 1 cross-linked C-telopeptide; BALP: bone alkaline phosphatase; SePP: selenoprotein P; IOF: International Osteoporosis Foundation; IFCC: International Federation of Clinical Chemistry and Laboratory Medicine.
Supplemental Table 3: Estimated marginal means from ANCOVA of bone turnover markers by supplementation group at 6 months and 5 years after the removal of systemic glucocorticoid users. Upper and lower 95% confidence intervals are displayed in parentheses.

| Bone Turnover (µg/L), Mean (CI) | Selenium dosage (µg) | P   |
|---------------------------------|----------------------|-----|
|                                 | 0                    | 100 | 200 | 300 |
| OC 6 months                     | 17.1 (16.3-17.9)     | 16.7 (16.0-17.5) | 17.5 (16.7-18.4) | 16.5 (15.7-17.4) | 0.381 |
| OC 5 years                      | 17.0 (15.6-18.4)     | 17.2 (15.8-18.7) | 17.2 (15.8-18.7) | 16.1 (14.9-17.5) | 0.642 |
| PINP 6 months                   | 38.7 (36.8-40.8)     | 36.6 (34.8-38.5) | 38.4 (36.4-40.6) | 38.7 (36.6-40.9) | 0.394 |
| PINP 5 years                    | 39.7 (36.2-43.5)     | 40.0 (36.5-43.9) | 39.4 (35.9-43.5) | 37.7 (34.4-41.2) | 0.801 |
| CTX 6 months                    | 0.16 (0.14-0.17)     | 0.16 (0.14-0.17) | 0.16 (0.15-0.18) | 0.15 (0.14-0.17) | 0.916 |
| CTX 5 years                     | 0.16 (0.14-0.18)     | 0.17 (0.15-0.19) | 0.16 (0.14-0.18) | 0.15 (0.14-0.17) | 0.621 |
| BALP 6 months                   | 14.4 (13.8-14.9)     | 13.8 (13.3-14.3) | 13.7 (13.2-14.3) | 14.3 (13.8-14.9) | 0.192 |
| BALP 5 years                    | 14.0 (13.2-14.8)     | 14.9 (14.0-15.8) | 14.5 (13.7-15.4) | 14.6 (13.7-15.4) | 0.526 |

CI: confidence intervals; OC: osteocalcin; PINP: procollagen type 1 N-terminal propeptide; CTX: collagen type 1 cross-linked C-telopeptide; BALP: bone alkaline phosphatase. Covariates in the ANCOVA included age (continuous), BMI (continuous), baseline selenium status (continuous), baseline BTM (continuous), smoking (binary), alcohol (binary), supplement use (binary) (calcium, vitamin D and multivitamins) and medication (binary) (thyroid, inhaled and systemic glucocorticoid (GC), antiresorptives, hormone replacement therapy (HRT)). OC 6 months n = 400: 105, 104, 98, 93; OC 5 years n = 325: 82, 83, 76, 84; PINP 6 months n = 399: 104, 108, 92, 93; PINP 5 years n = 325: 82, 83, 76, 84; CTX 6 months n = 374: 97, 97, 93, 87; CTX 5 years n = 296: 72, 76, 73, 75; BALP 6 months n = 398: 104, 103, 98, 93; BALP 5 years n = 325: 82, 82, 77, 84 participants for 0-300 µg/d selenium, respectively.

Supplemental Table 4: Estimated marginal means from ANCOVA of bone turnover markers by supplementation group at 6 months and 5 years after the removal of systemic glucocorticoid, inhaled glucocorticoid, thyroid medication and antiresorptive users. Upper and lower 95% confidence intervals are displayed in parentheses.

| Bone Turnover (µg/L), Mean (CI) | Selenium dosage (µg) | P   |
|---------------------------------|----------------------|-----|
|                                 | 0                    | 100 | 200 | 300 |
| OC 6 months                     | 17.1 (16.3-17.9)     | 16.6 (15.6-17.4) | 17.4 (16.6-18.3) | 16.3 (15.5-17.1) | 0.244 |
| OC 5 years                      | 16.9 (15.5-18.4)     | 16.9 (15.5-18.5) | 17.1 (15.6-18.7) | 15.9 (14.6-17.4) | 0.689 |
| PINP 6 months                   | 38.9 (36.9-41.0)     | 36.4 (34.4-38.5) | 38.2 (36.1-40.4) | 38.4 (36.3-40.6) | 0.346 |
| PINP 5 years                    | 39.0 (35.4-43.0)     | 39.9 (36.1-44.1) | 39.4 (35.9-43.6) | 37.5 (34.0-41.4) | 0.847 |
| CTX 6 months                    | 0.16 (0.14-0.17)     | 0.15 (0.14-0.16) | 0.16 (0.15-0.18) | 0.15 (0.14-0.17) | 0.715 |
| CTX 5 years                     | 0.17 (0.15-0.19)     | 0.17 (0.15-0.19) | 0.16 (0.14-0.18) | 0.16 (0.14-0.18) | 0.815 |
| BALP 6 months                   | 14.4 (13.9-15.0)     | 13.7 (13.2-14.2) | 13.7 (13.2-14.3) | 14.2 (13.6-14.7) | 0.174 |
| BALP 5 years                    | 14.0 (13.2-14.8)     | 14.7 (13.8-15.7) | 14.5 (13.6-15.5) | 14.4 (13.5-15.3) | 0.673 |

CI: confidence intervals; OC: osteocalcin; PINP: procollagen type 1 N-terminal propeptide; CTX: collagen type 1 cross-linked C-telopeptide; BALP: bone alkaline phosphatase. Covariates in the ANCOVA included age (continuous), BMI (continuous), baseline selenium status (continuous), baseline BTM (continuous), smoking (binary), alcohol (binary), supplement use (binary) (calcium, vitamin D and multivitamins) and medication (binary) (thyroid, inhaled and systemic glucocorticoid (GC), antiresorptives, hormone replacement therapy (HRT)). OC 6 months n = 371: 101, 92, 90, 88; OC 5 years n = 296: 78, 73, 69, 76; PINP 6 months n = 370: 100, 92, 90, 88; PINP 5 years n = 296: 78, 73, 69, 76; CTX 6 months n = 347: 94, 86, 85, 82; CTX 5 years n = 269: 69, 67, 66, 67; BALP 6 months n = 369: 100, 91, 90, 88; BALP 5 years n = 296: 78, 72, 70, 76 participants for 0-300 µg/d selenium, respectively.
Supplemental Table 5: Estimated marginal means from ANCOVA of bone turnover markers by supplementation group at 6 months and 5 years after the removal of hormone replacement therapy users. Upper and lower 95% confidence intervals are displayed in parentheses.

| Bone Turnover (µg/L), Mean (CI) | Selenium dosage (µg) | P     |
|---------------------------------|----------------------|-------|
|                                 | 0                    | 100   | 200  | 300  |
| OC 6 months                     | 17.4 (16.6-18.2)     | 17.3 (16.5-18.2) | 17.5 (16.6-18.4) | 16.7 (16.0-17.6) | 0.649 |
| OC 5 years                      | 17.4 (15.9-19.0)     | 17.3 (15.8-18.9) | 17.5 (16.0-18.9) | 16.1 (14.7-17.5) | 0.505 |
| PINP 6 months                   | 38.7 (36.6-40.9)     | 37.9 (35.9-40.2) | 39.4 (37.2-41.6) | 40.1 (37.8-42.5) | 0.605 |
| PINP 5 years                    | 40.9 (36.9-45.3)     | 41.1 (37.1-45.5) | 40.9 (36.9-45.3) | 38.1 (34.4-42.1) | 0.684 |
| CTX 6 months                    | 0.16 (0.14-0.17)     | 0.16 (0.14-0.18) | 0.16 (0.15-0.18) | 0.16 (0.14-0.17) | 0.846 |
| CTX 5 years                     | 0.16 (0.14-0.18)     | 0.17 (0.15-0.20) | 0.16 (0.14-0.19) | 0.15 (0.13-0.17) | 0.523 |
| BALP 6 months                   | 14.6 (14.0-15.2)     | 14.0 (13.2-14.6) | 13.7 (13.2-14.3) | 14.5 (13.9-15.1) | 0.149 |
| BALP 5 years                    | 14.4 (13.5-15.3)     | 15.1 (14.1-16.1) | 14.9 (14.0-16.0) | 14.6 (13.7-15.6) | 0.737 |

Cl: confidence intervals; OC: osteocalcin; PINP: procollagen type 1 N-terminal propeptide; CTX: collagen type 1 cross-linked C-telopeptide; BALP: bone alkaline phosphatase. Covariates in the ANCOVA included age (continuous), BMI (continuous), baseline selenium status (continuous), baseline BTM (continuous), smoking (binary), alcohol (binary), supplement use (binary) (calcium, vitamin D and multivitamins) and medication (binary) (thyroid, inhaled and systemic glucocorticoid (GC), antiresorptives, hormone replacement therapy (HRT)). OC 6 months n = 341: 87, 87, 86, 81; OC 5 years n = 296: 73, 69, 76; PINP 6 months n = 340: 86, 87, 86, 81; PINP 5 years n = 268: 67, 66, 66, 69; CTX 6 months n = 321: 81, 82, 81, 77; CTX 5 years n = 244: 59, 61, 63, 61; BALP 6 months n = 339: 86, 86, 86, 81; BALP 5 years n = 269: 66, 67, 67, 69 participants for 0-300 µg/d selenium, respectively.

Supplemental Table 6: Estimated marginal means from ANCOVA of bone turnover markers by supplementation group at 6 months and 5 years after the removal of calcium, vitamin D and multivitamin users. Upper and lower 95% confidence intervals are displayed in parentheses.

| Bone Turnover (µg/L), Mean (CI) | Selenium dosage (µg) | P     |
|---------------------------------|----------------------|-------|
|                                 | 0                    | 100   | 200  | 300  |
| OC 6 months                     | 17.1 (16.1-18.0)     | 16.8 (15.8-17.8) | 17.6 (16.4-18.7) | 17.1 (16.0-18.2) | 0.785 |
| OC 5 years                      | 16.7 (15.1-18.5)     | 17.9 (16.2-19.9) | 16.7 (14.7-18.9) | 16.4 (14.7-18.4) | 0.671 |
| PINP 6 months                   | 38.3 (35.9-40.8)     | 35.8 (33.6-38.2) | 38.0 (35.3-40.9) | 39.5 (36.9-42.5) | 0.226 |
| PINP 5 years                    | 38.6 (34.4-43.4)     | 41.2 (36.6-46.2) | 37.5 (32.6-43.2) | 38.2 (33.7-43.4) | 0.743 |
| CTX 6 months                    | 0.17 (0.15-0.19)     | 0.16 (0.14-0.17) | 0.16 (0.14-0.18) | 0.16 (0.14-0.18) | 0.879 |
| CTX 5 years                     | 0.18 (0.15-0.21)     | 0.18 (0.16-0.21) | 0.16 (0.14-0.19) | 0.17 (0.14-0.19) | 0.589 |
| BALP 6 months                   | 14.1 (13.6-14.7)     | 13.6 (13.1-14.2) | 13.8 (13.2-14.4) | 14.5 (13.9-15.2) | 0.138 |
| BALP 5 years                    | 14.1 (13.1-15.2)     | 15.2 (14.1-16.4) | 14.2 (13.0-15.5) | 14.3 (13.2-15.4) | 0.488 |

Cl: confidence intervals; OC: osteocalcin; PINP: procollagen type 1 N-terminal propeptide; CTX: collagen type 1 cross-linked C-telopeptide; BALP: bone alkaline phosphatase. Covariates in the ANCOVA included age (continuous), BMI (continuous), baseline selenium status (continuous), baseline BTM (continuous), smoking (binary), alcohol (binary), supplement use (binary) (calcium, vitamin D and multivitamins) and medication (binary) (thyroid, inhaled and systemic glucocorticoid (GC), antiresorptives, hormone replacement therapy (HRT)). OC 6 months n = 246: 70, 69, 50, 57; OC 5 years n = 199: 57, 57, 37, 48; PINP 6 months n = 245: 69, 69, 50, 57; PINP 5 years n = 200: 57, 57, 38, 48; CTX 6 months n = 232: 67, 64, 47, 54; CTX 5 years n = 179: 50, 52, 35, 42; BALP 6 months n = 244: 69, 68, 50, 57; BALP 5 years n = 199: 57, 56, 38, 48 participants for 0-300 µg/d selenium, respectively.
Supplemental Table 7: Estimated marginal means from ANCOVA of bone turnover markers by supplementation group at 6 months and 5 years after the removal of antiresorptive users and fractures. Upper and lower 95% confidence intervals are displayed in parentheses.

| Bone Turnover (µg/L), Mean (CI) | Selenium dosage (µg) | P   |
|----------------------------------|-----------------------|-----|
|                                  | 0                     | 100 | 200  | 300  |     |
| OC 6 months                      | 17.1 (16.3-17.9)      | 16.7 (15.9-17.5) | 17.4 (16.6-18.3) | 16.5 (15.7-17.3) | 0.405 |
| OC 5 years                       | 16.8 (15.5-18.2)      | 17.3 (15.9-18.8) | 17.1 (15.7-18.6) | 16.0 (14.8-17.4) | 0.602 |
| PINP 6 months                    | 38.9 (36.9-41.0)      | 36.6 (34.7-38.5) | 38.4 (36.3-40.6) | 38.5 (36.5-40.8) | 0.373 |
| PINP 5 years                     | 39.4 (36.0-43.3)      | 40.6 (36.9-44.6) | 39.4 (35.7-43.4) | 37.3 (34.0-40.9) | 0.658 |
| CTX 6 months                     | 0.16 (0.14-0.17)      | 0.16 (0.15-0.18) | 0.16 (0.15-0.18) | 0.16 (0.14-0.17) | 0.914 |
| CTX 5 years                      | 0.16 (0.14-0.18)      | 0.18 (0.16-0.20) | 0.16 (0.14-0.18) | 0.15 (0.14-0.17) | 0.447 |
| BALP 6 months                    | 14.4 (13.8-14.9)      | 13.8 (13.2-14.3) | 13.7 (13.2-14.2) | 14.3 (13.7-14.9) | 0.183 |
| BALP 5 years                     | 13.9 (13.1-14.7)      | 13.1 (14.2-15.9) | 14.5 (13.6-15.3) | 14.4 (13.6-14.4) | 0.316 |

CI: confidence intervals; OC: osteocalcin; PINP: procollagen type 1 N-terminal propeptide; CTX: collagen type 1 cross-linked C-telopeptide; BALP: bone alkaline phosphatase. Covariates in the ANCOVA included age (continuous), BMI (continuous), baseline selenium status (continuous), baseline BTM (continuous), smoking (binary), alcohol (binary), supplement use (binary) (calcium, vitamin D and multivitamins) and medication (binary) (thyroid, inhaled and systemic glucocorticoid (GC), antiresorptives, hormone replacement therapy (HRT)). OC 6 months n = 392: 104, 100, 97, 91; OC 5 years n = 316: 81, 79, 75, 81; PINP 6 months n = 391: 103, 100, 97, 91; PINP 5 years n = 316: 81, 79, 75, 81; CTX 6 months n = 366: 96, 93, 92, 85; CTX 5 years n = 289: 71, 73, 72, 73; BALP 6 months n = 390: 103, 99, 97, 91; BALP 5 years n = 316: 81, 78, 76, 81 participants for 0-300 µg/d selenium, respectively.

Supplemental Table 8: Sensitivity analyses including participants with plasma selenium status below 70 µg/L at baseline. Upper and lower 95% confidence intervals are displayed in parentheses.

| Bone Turnover (µg/L), Mean (CI) | Selenium dosage (µg) | P   |
|----------------------------------|-----------------------|-----|
|                                  | 0                     | 100 | 200  | 300  |     |
| OC 6 months                      | 16.4 (14.3-18.7)      | 16.8 (14.7-19.3) | 18.8 (16.4-21.5) | 15.7 (14.2-17.3) | 0.231 |
| OC 5 years                       | 25.6 (18.3-35.7)      | 14.5 (10.2-20.6) | 16.1 (10.5-24.7) | 18.7 (14.8-23.5) | 0.139 |
| PINP 6 months                    | 37.3 (30.5-45.6)      | 37.6 (30.5-46.3) | 40.6 (33.3-49.4) | 38.8 (33.5-44.9) | 0.930 |
| PINP 5 years                     | 56.5 (40.4-78.9)      | 37.1 (26.2-52.4) | 37.1 (24.2-56.6) | 43.6 (34.8-54.6) | 0.318 |
| CTX 6 months                     | 0.17 (0.12-0.24)      | 0.15 (0.10-0.22) | 0.15 (0.10-0.21) | 0.15 (0.11-0.19) | 0.931 |
| CTX 5 years                      | 0.27 (0.19-0.36)      | 0.16 (0.11-0.25) | 0.12 (0.10-0.19) | 0.16 (0.12-0.20) | 0.045 |
| BALP 6 months                    | 13.5 (11.8-15.6)      | 12.9 (11.3-14.7) | 13.5 (11.8-15.3) | 14.4 (13.1-15.8) | 0.580 |
| BALP 5 years                     | 16.5 (12.4-21.9)      | 13.5 (10.0-18.1) | 13.2 (9.9-18.7)  | 14.9 (12.3-17.9) | 0.728 |

CI: confidence intervals; OC: osteocalcin; PINP: procollagen type 1 N-terminal propeptide; CTX: collagen type 1 cross-linked C-telopeptide; BALP: bone alkaline phosphatase. Covariates in the ANCOVA included age (continuous), BMI (continuous), baseline selenium status (continuous), baseline BTM (continuous), smoking (binary), alcohol (binary), supplement use (binary) (calcium, vitamin D and multivitamins) and medication (binary) (thyroid, inhaled and systemic glucocorticoid (GC), antiresorptives, hormone replacement therapy (HRT)). OC 6 months n = 49: 10, 9, 11, 19; OC 5 years n = 38: 8, 7, 6, 17; PINP 6 months n = 49: 10, 9, 11, 19; PINP 5 years n = 38: 8, 7, 6, 17; CTX 6 months n = 44: 9, 7, 10, 18; CTX 5 years n = 35: 8, 6, 6, 15; BALP 6 months n = 48:9, 9, 11, 19; BALP 5 years n = 38: 8, 7, 6, 17 participants for 0-300 µg/d selenium, respectively.
Supplemental Table 9: Baseline characteristics of participants with bone turnover markers by dropout status (yes/no).

| Characteristic                                      | All Participants | Dropout | P  |
|-----------------------------------------------------|------------------|---------|----|
|                                                     | No               | Yes     |    |
| Sex, n (%) Male                                     | 250 (52.0)       | 177 (50.0) | 73 (57.5) | 0.148 |
| Sex, n (%) Female                                   | 231 (48.0)       | 177 (50.0) | 54 (42.5)  |
| Age years, Mean (SD)                                | 66.16 (4.1)      | 66.10 (4.1) | 66.34 (4.2) | 0.571 |
| Plasma Selenium µg/L, Mean (SD)                     | 86.54 (16.2)     | 86.71 (16.4) | 85.89 (15.8) | 0.742 |
| BMI kg/m², Mean (SD)                                | 26.82 (4.03)     | 26.81 (4.0)  | 26.88 (4.0)  | 0.672 |
| Height m, Mean (SD)                                 | 1.69 (0.09)      | 1.69 (0.09)  | 1.69 (0.09)  | 0.719 |
| Weight kg, Mean (SD)                                | 76.81 (13.6)     | 76.76 (13.6) | 77.17 (13.2) | 0.720 |
| Alcohol units per week, Mean (SD)                   | 7.29 (7.5)       | 7.27 (7.6)  | 7.39 (7.4)   | 0.865 |
| Smokers, n (%)                                      |                 |         | 0.220 |
| Never                                               | 158 (32.8)       | 120 (33.9)  | 38 (29.9)    |
| Previous                                            | 178 (37.0)       | 135 (38.1)  | 43 (33.9)    |
| Present                                             | 145 (30.1)       | 99 (28.0)   | 46 (36.2)    |
| Education, n (%)                                    |                 |         | 0.397 |
| None                                                | 134 (28.7)       | 103 (29.7)  | 31 (25.8)    |
| 1-3y                                                | 76 (16.3)        | 53 (15.3)   | 23 (19.2)    |
| 3-4y                                                | 212 (45.4)       | 161 (46.4)  | 51 (42.5)    |
| >4y                                                 | 45 (9.6)         | 30 (8.6)    | 15 (12.5)    |
| Live Alone, n (%)                                   |                 |         | 0.713 |
| No                                                  | 400 (85.7)       | 296 (85.3)  | 104 (86.7)   |
| Yes                                                 | 67 (14.3)        | 51 (14.7)   | 16 (13.3)    |
| Thyroid Medication, n (%)                           |                 |         | 0.961 |
| None                                                | 468 (97.1)       | 344 (97.2)  | 123 (96.9)   |
| LT4                                                 | 11 (2.3)         | 8 (2.3)     | 3 (2.4)      |
| ATD                                                 | 3 (0.6)          | 2 (0.6)     | 1 (0.8)      |
| Inhaled GC, n (%)                                   |                 |         | 0.721 |
| No                                                  | 451 (96.4)       | 335 (96.5)  | 115 (95.8)   |
| Yes                                                 | 17 (3.6)         | 12 (3.5)    | 5 (4.2)      |
| Systemic GC, n (%)                                  |                 |         | 0.274 |
| No                                                  | 475 (99.2)       | 352 (99.4)  | 123 (98.4)   |
| Yes                                                 | 4 (0.8)          | 2 (0.6)     | 2 (1.6)      |
| Antiresorptives, n (%)                              |                 |         | 0.667 |
| No                                                  | 461 (98.7)       | 343 (98.8)  | 118 (98.3)   |
| Yes                                                 | 6 (1.3)          | 4 (1.2)     | 2 (1.7)      |
| HRT, n (%)                                           |                 |         | 0.128 |
| No                                                  | 392 (83.9)       | 286 (82.4)  | 106 (88.3)   |
| Yes                                                 | 75 (16.1)        | 61 (17.6)   | 14 (11.7)    |
| Calcium, n (%)                                       |                 |         | 0.642 |
| No                                                  | 419 (89.7)       | 310 (89.3)  | 109 (90.8)   |
| Yes                                                 | 48 (10.3)        | 37 (10.7)   | 11 (9.2)     |
| Vitamin D, n (%)                                     |                 |         | 0.254 |
Supplemental Table 10: Bone turnover markers at baseline of participants by dropout status (yes/no).

| Bone Turnover (µg/L), Mean (SD) | All participants | Dropout | P  |
|----------------------------------|------------------|---------|----|
|                                  |                  | No      | Yes |
| OC                               | 18.67 (8.46)     | 18.60 (8.23) | 18.86 (9.09) | 0.883 |
| PINP                             | 42.68 (18.05)    | 42.14 (17.23) | 44.17 (20.16) | 0.520 |
| CTX                              | 0.20 (0.22)      | 0.21 (0.25)  | 0.20 (0.13)   | 0.876 |
| BALP                             | 15.66 (5.68)     | 15.60 (5.83) | 15.84 (5.24) | 0.279 |

SD: standard deviation; OC: osteocalcin; PINP: procollagen type 1 N-terminal propeptide; CTX: collagen type 1 cross-linked C-telopeptide; BALP: bone alkaline phosphatase. OC and PINP n = 482; CTX n = 460; BALP n = 480. OC and PINP n = 354 remained, 127 dropped out; CTX n = 336 remained, 123 dropped out; BALP n = 354 remained, 125 dropped out.