**Supplementary Material**

**Comparison of an Online-Only Parkinson’s Disease Research Cohort to Cohorts Assessed In Person**

**Supplementary Table 1.** Studies contributing to Parkinsons Disease Biomarker Program (PDBP) cohort included in analysis

|  |  |  |  |
| --- | --- | --- | --- |
| **Number contributing to analysis** | **Site Name** | **Study Name** | **Website (accessed September 17, 2019)** |
| 315 | University of Alabama at Birmingham (UAB) | LRRK Other Novel Exosome Proteins in Parkinson's Disease | <https://pdbp.ninds.nih.gov/node/128> |
| 70 | Johns Hopkins University School of Medicine | Johns Hopkins medicine biomarker discovery in Parkinson's disease | <https://pdbp.ninds.nih.gov/node/130> |
| 66 | University of Texas Southwestern Medical Center | Diagnostic and prognostic biomarkers for Parkinson's disease | <https://pdbp.ninds.nih.gov/node/131> |
| 116 | Penn State Milton S. Hershey Medical Center | Multimodal MRI markers of nigrostriatal pathology in Parkinson's disease | <https://pdbp.ninds.nih.gov/node/127> |
| 32 | Harvard Medical School, Brigham and Women’s Hospital | Biomarkers for Early Intervention in Parkinson's Disease | https://pdbp.ninds.nih.gov/ |
| 9 | University of Washington School of Medicine | Large Scale Biomarker Discovery and Validation for Parkinson's Disease | https://pdbp.ninds.nih.gov/ |
| 26 | University of Michigan | Serotonin and Amyloidopathy | <https://pdbp.ninds.nih.gov/node/125> |
| 21 | University of Alabama | Innate and Adaptive Immunity in Parkinson Disease | <https://pdbp.ninds.nih.gov/Innate-and-Adaptive-Immunity-in-Parkinson-Disease> |
| 3 | Mount Sinai Beth Israel | Evaluation of glucocerebrosidase pathway biomarkers in Parkinson Disease | <https://pdbp.ninds.nih.gov/node/135> |
| 2 | Harvard Medical School, Brigham and Women’s Hospital | GBA pathway markers for Lewy body dementias | <https://pdbp.ninds.nih.gov/pdbp-study-229> |
| 40 | University of Florida College of Medicine | Neuroimaging Biomarkers in Parkinsonism: Differentiating Subtypes and Tracking Disease Progression | <https://pdbp.ninds.nih.gov/node/164> |

**Supplementary Table 2.** Time to questionnaire completion (in days) at the baseline visit for the Fox Insight cohort.

| **Questionnaire** | **Mean** | **SD** | **Min** | **Median** | **Max** |
| --- | --- | --- | --- | --- | --- |
| Demographics | 0.000 | 0.000 | 0 | 0 | 0 |
| Family history | 0.011 | 0.652 | 0 | 0 | 62 |
| MDS-UPDRS-II | 0.042 | 1.609 | 0 | 0 | 90 |
| Medical or Health History | 0.098 | 2.161 | 0 | 0 | 90 |
| PD Medications | 0.050 | 1.744 | 0 | 0 | 80 |
| Supplements Use | 0.036 | 1.454 | 0 | 0 | 78 |
| NMS-Questionnaire | 0.018 | 0.901 | 0 | 0 | 78 |
| PDQ8 | 0.031 | 1.171 | 0 | 0 | 79 |
| RBD Survey | 0.000 | 0.000 | 0 | 0 | 0 |

**Supplementary Table 3.** Variables used to compare demographics across cohorts using responses on different questions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **Fox Insight** | **PPMI** | **PDBP** | **IPDLC** |
| Age | Age at time of earliest completed >80% MDS-UPDRS | Age at time of earliest completed >80% MDS-UPDRS | Age at time of earliest completed >80% MDS-UPDRS | Age at time of earliest completed >80% UPDRS |
| Gender/Sex | Male, Female, Prefer not to answer, Missing | Male, female | Male, female | Gender at birth (Male, female) |
| Height | Height, provided as continuous variable | Height, provided as continuous variable | Height, provided as continuous variable |  |
| Weight | Weight, provided as continuous variable | Weight, provided as continuous variable | Weight, provided as continuous variable |  |
| BMI | Derived (WeightKgs / ((HeightCm/100)^2)) | Derived (WeightKgs / ((HeightCm/100)^2)) | NA |  |
| Race | Multiple Race entries/selections allowed.  If RaceWhite was selected, (and no other Race category was selected) then the subject was categorized as "White"  If other Race categories (RaceAA, RaceAI, RaceA, RaceNH) were selected OR there were multiple race categories selected, then the subject was categorized as "Non-White" | If RaWhite was selected (and no other Race category was selected), then the subject was categorized as "White".  If other Race categories (besides “Unknown or not reported” or blank) were selected OR multiple race categories were selected, then the subject was categorized as "Non-White". | If listed Race was Caucasian then the subject was categorized as "White".  If other categories were listed (besides "Unknown" or blank), then the subject was categorized as "Non-White" | If Race was entered as “Caucasian”, then the subject was categorized as "White".  Other Race categories (besides blank) were categorized as "Non-White". |
| Ethnicity | If EthnNotHispanic was selected, then the subject was categorized as "NonHispanic" If EthnMexican, EthnPuerto, EthnCuban, OR EthnLatino were selected, then the subject was categorized as "Hispanic" | If “Hispanic or Latino” was selected, then the subject was categorized as “Hispanic”. If “Not Hispanic or Latino” was selected then the subject was categorized as “NonHispanic”. | If listed Ethnicity was Not Hispanic or Latino then the subject was categorized as "NonHispanic" If listed Ethnicity was Hispanic or Latino then the subject was categorized as "Hispanic". | If Ethnicity was entered as “Hispanic” then the subject was categorized as “Hispanic”. Any other Ethnicity (besides blank) was categorized as “NonHispanic”. |
| Education | Categories of education compared:  “Less than a high school degree" = Less than 9 years category "High school degree (GED or equivalent)" = 9-12 years category "Some college", "Associate's degree", OR "Bachelor's degree" = 13-16 years category "Master's degree", "Professional school degree", OR “Doctorate Degree” = More than 16 years category | Years of Education was categorized as follows:  1 = Less than 9 years  2 = 9-12 years  3 = 13-16 years  4 = More than 16 years | Less than a high school degree" = Less than 9 years category "High school degree (GED or equivalent)" = 9-12 years category "Some college", "Associate's degree", OR "Bachelor's degree" = 13-16 years category "Master's degree", "Professional school degree", OR “Doctoral Degree” = More than 16 years category | 1 = elementary/middle school or equivalent  2 = high school or equivalent  3 = college/university or equivalent  6 = post-college/university |
| Duration | Age (defined as above) - InitPDDiagAge |  | Age (defined as above) - Diagnosis Age |  |
| Family History | Mother or Father with PD OR  1 or more children or sibling with PD (half siblings are included here) |  | Mother, father, children or (half) siblings listed with family history of PD |  |

**Supplementary Table 4** Definitions used to compare symptoms across cohorts using responses on different questionnaires

Use data from NMSQuest questionnaire version which first meets the criteria of 80% completion.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **VARIABLE** | **FI variable/ variable name** | **PPMI variable** | **PDBP variable** | **IPDLC variable** |
| PDQ8 Total Score | LivePD…variables | PDQ8 total score (continuous variable) | Take score of the following items from PDQ39: Q7, Q12, Q17, Q25, Q27, Q31, Q35, Q37, create a sum score, divide by 32, and multiply resulting score by 100 |  |
| Acting out dreams while sleeping | Sleep Yes/no on FI question vs. | RBDSQ score >5 | (RBDSQ score >5 | Response of yes to mayo sleep questionnaire: Questionnaire.MSQ\_ DreamsActInd |
| Dribbling of saliva | NonMoveSaliva | 0 vs. >0 SCOPA-AUT item #2 | Not collected | 0 vs. >0 SCOPA-AUT item #2 |
| Loss/change in ability to taste/smell | NonMoveSmell | Not collected | Not collected | Not collected |
| Difficulty swallowing/ choking | NonMoveSwall | 0 vs. >0 SCOPA-AUT item #1 OR item #3 | Not collected | 0 vs. >0 SCOPA-AUT item #1 OR item #3 |
| Nausea/Vomiting | NonMoveVomit | Not collected | Not collected | Not collected |
| Constipation | NonMoveConstip | >0 on items 5 or 6 of SCOPA-AUT | Not collected | 0 vs. >0 on items 5 or 6 of SCOPA-AUT |
| Fecal Incontinence | NonMoveBowelIncon | Not collected | Not collected | Not collected |
| Incomplete Bowel Emptying | NonMoveBowelEmpty | Not collected | Not collected | Not collected |
| Urgency to pass urine | NonMoveUrine | 0 vs. >0 SCOPA-AUT item 9 | Not collected | 0 vs. >0 SCOPA-AUT item 9 |
| Unexplained pain | NonMovePain | Not collected | Not collected | Not collected |
| Unexplained change in weight | NonMoveWeight | Not collected | Not collected | Not collected |
| Problems with remembering | NonMoveForget | 0 vs. >0 on MDS-UPDRS item 1.1 | 0 vs. >0 on MDS-UPDRS item 1.1 | 0 vs. >0 on UPDRS I item 1 |
| Loss of interest | NonMoveInterest | 0 vs. >0 on MDS-UPDRS item 1.5 | 0 vs. >0 on MDS-UPDRS item 1.5 | 0 vs. >0 on UPDRS I item 4 |
| Seeing/Hearing things that are not there | NonMoveSee | 0 vs. >0 on MDS-UPDRS item 1.2 | 0 vs. >0 on MDS-UPDRS item 1.2 | 0 vs. >0 on UPDRS I item 2 |
| Difficulty concentrating or focusing | NonMoveConcent | Not collected | Not collected | Not collected |
| Feeling sad, low or blue | NonMoveFeel | GDS-15>5 | Hamilton depression scale total score >7 | GDS-15>5 |
| Feeling anxious, frightened, panicky | NonMoveAnxious | 0 vs. >0 on MDS-UPDRS item 1.4 | 0 vs. >0 on MDS-UPDRS item 1.4 | Not collected |
| Less or more interested in sex than before | NonMoveSex | Not collected | Not collected | Not collected |
| Finding it difficult to have sex | NonMoveSexDiff | For females: SCOPA-AUT item #24 OR 25. For males: SCOPA-AUT item #22,23,23a (yes on 23a). | Not collected | For females: SCOPA-AUT item #24 OR 25. For males: SCOPA-AUT item #22,23,23a (yes on 23a). |
| Lightheaded/ Dizzy/ Weak | NonMoveDizzy | 0 vs. >0 SCOPA-AUT item14 OR 15 | Not collected | 0 vs. >0 SCOPA-AUT item14 OR 15 |
| Falling | NonMoveFall | Not collected | Not collected | 0 vs. >0 on UPDRS II item 13 |
| Finding difficult to stay awake through the day | NonMoveAwake | >10 on Epworth sleepiness scale | Not collected | >10 on Epworth sleepiness scale |
| Intense, Vivid, Frightening dreams | NonMoveDream | Response to question #1 of the RDBSQ | Response to question #1 of the RDBSQ | Response to question #1 of the RDBSQ |
| Talking/ Moving in sleep | NonMoveTalk | “yes” on item 6.a (6.1) of RBDSQ | “yes” on item 6.a (6.1) of RBDSQ | “yes” on item 6.a (6.1) of RBDSQ |
| Unpleasant sensations in legs | NonMoveSens | Not collected | Not collected | Not collected |
| Swelling of legs | NonMoveSwell | Not collected | Not collected | Not collected |
| Excessive sweating | NonMoveSweat | Not collected | Not collected | Not collected |
| Double vision | NonMoveVision | Not collected | Not collected | Not collected |
| Believing things happening to you that other people say aren’t | NonMoveHappen | 0 vs. >0 on MDS-UPDRS item 1.2 | 0 vs. >0 on UPDRS I item 2 | 0 vs. >0 on MDS-UPDRS item 1.2 |

**Supplementary Table 5.** PD medication and supplement variables compared across cohorts and definitions used for each.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **VARIABLE** | **FI variable** | **PPMI variable** | **PDBP variable** | **IPDLC variable** |
| Levodopa | Lodosyn (Carbidopa)  Sinemet (Cabidopa-levodopa oral)  Sinemet CR (Carbidopa-levodopa oral, extended release)  Parcopa (Carbidopa-lovodopa oral)  Rytary or Numient (Caricopa-levodopa oral, extended release)  Duopa or Duodopa (Carbidopa-levodopa intestinal gel)  Stalevo (Carbidopa, levodopa, and entacapone)  Madopar (Levodopa-benserazide) | Levodopa yes/no in PD medication use case report form | Carbidopa/levodopa (Atamet, Sinemet)  Carbidopa/levodopa substained release (Sinemet CR)  Carbidopa/levodopa orally disintegrating (Parcopa)  Carbidopa/levodopa/entacapone (Stalevo) | (n/a, not collected. Only a total levodopa equivalent dose is available) |
| Dopamine agonist | Mirapex, Mirapexin or Sifrol (Pramipexole)  Mirapex ER or Sifrol ER (Pramipexole)  Adartel (Ropinirole)  Requip (Ropinirole)  Requip XL (Ropinirole)  Artane (Trihexyphenidyl)  Neupro (Rotigotine) | Agonist yes/no in PD medication use case report form | Pramipexole (Mirapex)  Pramipexole extended release (Mirapex ER)  Ropinirole (Requip)  Ropinirole extended release (Requip XL)  Rotigotine transdermal patch (Neupro)  Apomorphine (Apokyn)  Pergolide (Permax)  Bromocriptine (Parlodel) | (n/a, not collected. Only a total levodopa equivalent dose is available) |
| Other PD med | Azilect (Rasagiline)  Deprenyl (Selegiline)  Eldepryl (Selegiline)  Zelapar (Selegiline)  Emasm (Selegiline)  Symmetrel (Amantadine)  Tasmar (Tolcapone)  Parlodel (Bromocriptine)  Apo-Trihex (Trihexyphenidyl) | “other” in PD med use case report form | Selegiline (Eldepryl)  Selegiline orally disintegrating (Zelapar)  Selegiline transdermal patch (Emsam)  Rasagiline (Azilect)  Entacapone (Comtan)  Tolcapone (Tasmar)  Amantadine (Symmetrel)  Trihexyphenidyl (Artane, Tremin) | (n/a, not collected. Only a total levodopa equivalent dose is available) |
| Vitamin | Vitamin C (alone or multivitamin)  Vitamin D (alone or multivitamin)  Vitamin E (alone or multivitamin) | Manually extracted from PPMI concomitant medication log | Free text variations of vitamin (includes multivitamin listed under Other Medications) | (n/a, not collected) |
| Coenzyme q10 | CoQ10 |  | Free text variations of coQ10, coenzyme, coenzyme q10, or q10 listed under Other Medications | (n/a, not collected) |

**Supplementary Table 6:** Percentage of unanswered (PNA=prefer not to answer) and not answered (NA; missing) baseline demographic characteristic data of the Fox Insight cohort and comparator cohorts. Blank cells indicate data were not collected in a given cohort.

| **Item** | **Fox Insight** | **Early Fox Insight** | **PPMI** | **PDBP** | **IPDLC** | **Sig. Diff** | **Post-hoc effect sizes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Age |  |  |  |  |  |  |  |
| NA | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0% (0/700) | 0% (0/508) |  |  |
| Sex |  |  |  |  |  |  |  |
| NA | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0% (0/700) | 0% (0/508) |  |  |
| BMI |  |  |  |  |  |  |  |
| NA | 0% (0/12654) | 0% (0/4072) | 0.24% (1/422) |  |  |  |  |
| Race |  |  |  |  |  |  |  |
| PNA | 0.57% (72/12654) | 0.52% (21/4072) |  |  |  |  |  |
| NA | 0.02% (3/12654) | 0.02% (1/4072) | 0% (0/422) | 0.14% (1/700) | 0% (0/508) |  |  |
| Ethnicity |  |  |  |  |  |  |  |
| PNA | 2.49% (315/12654) | 1.67% (68/4072) |  |  |  |  |  |
| NA | 0.17% (22/12654) | 0.17% (7/4072) | 0% (0/422) | 3.14% (22/700) | 92.13% (468/508) | \* | FI vs. IPDLC: 0.936  FI vs. PDBP: 0.115 |
| Education |  |  |  |  |  |  |  |
| PNA | 0.35% (44/12654) | 0.42% (17/4072) |  |  |  |  |  |
| NA | 0.03% (4/12654) | 0.02% (1/4072) | 0% (0/422) | 0% (0/700) | 2.17% (11/508) | \* | FI vs. IPDLC: 0.122 |
| PD Duration |  |  |  |  |  |  |  |
| NA | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0% (0/700) | 0% (0/508) |  |  |
| Family History (1st Degree) |  |  |  |  |  |  |  |
| NA | 16.07% (2033/12654) | 20.41% (831/4072) | 0.24% (1/422) | 17.43% (122/700) | 4.33% (22/508) | \* | FI vs. IPDLC: 0.062  Early FI vs. PPMI: 0.151 |

**Supplementary Table 7.** Percentage of unanswered (PNA=prefer not to answer) and not answered (NA; missing) vascular risk factor data for the early Fox Insight cohort and PPMI cohort.

| **Item** | **Early Fox Insight** | **PPMI** | **Sig. Diff** | **Post-hoc effect sizes** |
| --- | --- | --- | --- | --- |
| Hypertension |  |  |  |  |
| PNA | 0.2% (8/4072) |  |  |  |
| NA | 0.1% (4/4072) | 0% (0/422) |  |  |
| High Cholesterol1 |  |  |  |  |
| PNA | 0.19% (1/538) |  |  |  |
| NA | 0.74% (4/538) | 0% (0/422) |  |  |
| Coronary Artery Disease |  |  |  |  |
| PNA | 0% (0/4072) |  |  |  |
| NA | 13.21% (538/4072) | 0% (0/422) | \* | Early FI vs PPMI: 0.118 |
| Peripheral Arterial Disease1 |  |  |  |  |
| PNA | 0.19% (1/538) |  |  |  |
| NA | 0.74% (4/538) | 0% (0/422) |  |  |
| Atrial Fibrillation |  |  |  |  |
| PNA | 0% (0/4072) |  |  |  |
| NA | 13.21% (538/4072) | 0% (0/422) | \* | Early FI vs PPMI: 0.118 |
| Stroke or TIA |  |  |  |  |
| PNA | 0.29% (12/4072) |  |  |  |
| NA | 0.1% (4/4072) | 0% (0/422) |  |  |
| Diabetes |  |  |  |  |
| PNA | 0.12% (5/4072) |  |  |  |
| NA | 0.1% (4/4072) | 0% (0/422) |  |  |

### Note, only a subset of participants received questions regarding high cholesterol and peripheral arterial disease for Fox Insight.

**Supplementary Table 8**: Percentage of missing MDS-UPDRS II data. MDS-UPDRS II=Movement Disorders Society Unified Parkinson’s Disease Rating Scale part II. Only NA (not answered) is shown as Prefer not to answer was not a response option.

| **Item** | **Fox Insight** | **Early Fox Insight** | **PPMI** | **PDBP** | **Sig. Diff** | **Post-hoc effect sizes** |
| --- | --- | --- | --- | --- | --- | --- |
| MDS-UPDRS II Total | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0% (0/700) |  |  |
| 2.1 Speech | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0% (0/700) |  |  |
| 2.2 Saliva and Drooling | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0% (0/700) |  |  |
| 2.3 Chewing and Swallowing | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0% (0/700) |  |  |
| 2.4 Eating Tasks | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0% (0/700) |  |  |
| 2.5 Dressing | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0% (0/700) |  |  |
| 2.6 Hygiene | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0% (0/700) |  |  |
| 2.7 Handwriting | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0% (0/700) |  |  |
| 2.8 Doing Hobbies and Other Activities | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0% (0/700) |  |  |
| 2.9 Turning in Bed | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0.14% (1/700) |  |  |
| 2.10 Tremor | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0% (0/700) |  |  |
| 2.11 Getting Out of Bed, a Car, or a Deep Chair | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0% (0/700) |  |  |
| 2.12 Walking and Balance | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0.14% (1/700) |  |  |
| 2.13 Freezing | 0% (0/12654) | 0% (0/4072) | 0% (0/422) | 0% (0/700) |  |  |

**Supplementary Table 9.** Percentage of missing data on Quality of life and non-motor symptom items. Only NA (not answered) is shown as Prefer not to answer was not a response option. Blank cells indicate data were not collected in a given cohort.

| **Item** | **Fox Insight** | **Early Fox Insight** | **PPMI** | **PDBP** | **IPDLC** | **Sig. Diff** | **Post-hoc effect sizes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| PDQ8 Total Score | 0.7% (88/12654) | 0.54% (22/4072) |  | 10% (70/700) |  | \* | FI vs. PDBP: 0.192 |
| Acting out dreams while sleeping | 3.88% (491/12654) | 2.48% (101/4072) | 0.71% (3/422) | 3.29% (23/700) | 89.57% (455/508) | \* | FI vs. IPDLC: 0.639 |
| Dribbling of saliva | 1.84% (233/12654) | 1.45% (59/4072) | 15.64% (66/422) |  | 62.6% (318/508) | \* | FI vs. IPDLC: 0.584  Early FI vs. PPMI: 0.251 |
| Olfactory change/loss | 1.84% (233/12654) | 1.45% (59/4072) |  |  |  |  |  |
| Difficulty swallowing/choking | 1.84% (233/12654) | 1.45% (59/4072) | 0% (0/422) |  | 0% (0/508) |  |  |
| Nausea/Vomiting | 1.84% (233/12654) | 1.45% (59/4072) |  |  |  |  |  |
| Constipation | 1.84% (233/12654) | 1.45% (59/4072) | 0% (0/422) |  | 62.2% (316/508) | \* | FI vs. IPDLC: 0.582 |
| Fecal Incontinence | 1.84% (233/12654) | 1.45% (59/4072) |  |  |  |  |  |
| Incomplete Bowel Emptying | 1.84% (233/12654) | 1.45% (59/4072) |  |  |  |  |  |
| Urgency to pass urine | 1.84% (233/12654) | 1.45% (59/4072) | 0% (0/422) |  | 62.4% (317/508) | \* | FI vs. IPDLC: 0.583 |
| Unexplained pain | 1.84% (233/12654) | 1.45% (59/4072) |  |  |  |  |  |
| Change in weight | 1.84% (233/12654) | 1.45% (59/4072) |  |  |  |  |  |
| Memory difficulties | 1.84% (233/12654) | 1.45% (59/4072) | 0% (0/422) | 0.14% (1/700) | 0% (0/508) |  |  |
| Loss of interest | 1.84% (233/12654) | 1.45% (59/4072) | 0% (0/422) | 0.14% (1/700) | 0.79% (4/508) |  |  |
| Hallucinationse | 1.84% (233/12654) | 1.45% (59/4072) | 0% (0/422) | 0.14% (1/700) | 0% (0/508) |  |  |
| Difficulty concentrating or focusing | 1.84% (233/12654) | 1.45% (59/4072) |  |  |  |  |  |
| Feeling sad, low or blue | 1.84% (233/12654) | 1.45% (59/4072) | 0% (0/422) | 0.14% (1/700) | 0.39% (2/508) |  |  |
| Anxiety/panic | 1.84% (233/12654) | 1.45% (59/4072) | 0% (0/422) | 0.14% (1/700) |  |  |  |
| Change in libido | 1.84% (233/12654) | 1.45% (59/4072) |  |  |  |  |  |
| Sexual dysfunction | 1.84% (233/12654) | 1.45% (59/4072) | 0.95% (4/422) |  | 65.16% (331/508) | \* | FI vs. IPDLC: 0.602 |
| Light headed/Dizzy | 1.84% (233/12654) | 1.45% (59/4072) | 15.64% (66/422) |  | 62.8% (319/508) | \* | FI vs. IPDLC: 0.586  Early FI vs. PPMI: 0.251 |
| Falling | 1.84% (233/12654) | 1.45% (59/4072) |  |  | 3.54% (18/508) |  |  |
| Daytime sleepiness | 1.84% (233/12654) | 1.45% (59/4072) | 0% (0/422) |  | 91.14% (463/508) | \* | FI vs. IPDLC: 0.769 |
| Vivid/Frightening dreams | 1.84% (233/12654) | 1.45% (59/4072) | 0% (0/422) |  | 0.39% (2/508) |  |  |
| Talking/Moving in sleep | 1.84% (233/12654) | 1.45% (59/4072) | 0.24% (1/422) |  | 0.39% (2/508) |  |  |
| Unpleasant sensations in legs | 1.84% (233/12654) | 1.45% (59/4072) |  |  |  |  |  |
| Swelling of legs | 1.84% (233/12654) | 1.45% (59/4072) |  |  |  |  |  |
| Excessive sweating | 1.84% (233/12654) | 1.45% (59/4072) |  |  |  |  |  |
| Double vision | 1.84% (233/12654) | 1.45% (59/4072) |  |  |  |  |  |
| Delusions | 1.84% (233/12654) | 1.45% (59/4072) | 0% (0/422) | 0.14% (1/700) |  |  |  |

**Supplementary Table 10.** Percentage of missing data on dopaminerigc medications and supplement use. Only NA (not answered) is shown as Prefer not to answer was not a response option.

| **Item** | **Fox Insight** | **Early Fox Insight** | **PPMI** | **PDBP** | **Sig. Diff** | **Post-hoc effect sizes** |
| --- | --- | --- | --- | --- | --- | --- |
| Levodopa | 0.22% (28/12654) | 0.27% (11/4072) | 0% (0/422) | 7.71% (54/700) | \* | FI vs. PDBP: 0.214 |
| Dopamine agonist | 0.22% (28/12654) | 0.27% (11/4072) | 0% (0/422) | 7.71% (54/700) | \* | FI vs. PDBP: 0.214 |
| Other PD med | 0.22% (28/12654) | 0.27% (11/4072) | 0% (0/422) | 7.71% (54/700) | \* | FI vs. PDBP: 0.214 |
| Vitamin | 0.25% (32/12654) | 0.2% (8/4072) | 0% (0/422) | 7.71% (54/700) | \* | FI vs. PDBP: 0.208 |
| Coenzyme q10 | 0.25% (32/12654) | 0.2% (8/4072) | 0% (0/422) | 7.71% (54/700) | \* | FI vs. PDBP: 0.208 |