**Supplementary material:**

***Prevalence of Physical Frailty: Results from the DO-HEALTH Study***

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| **Supplementary Table 1.** Components and Operationalization of Individual Items of the five used Frailty Tools in DO-HEALTH | | | | | |
| **Item** | **Fried PFP** | **SOF-FI** | **FRAIL-Scale** | **SHARE-FI1** | **SHARE-FI2** | |
| **Weakness / Resistance** | Grip Strength below the median of the lowest quintile by age and gender | Inability to complete a Chair-rise test 5 times from Short Physical Performance Battery | Answer YES to the self-reported question: “Because of a health problem, do you have any difficulty climbing one flight of stairs without resting?” from SHARE | Grip Strength below the median of the lowest quartile by age and gender | Answer YES to the self-reported question: “Because of a health problem, do you have any difficulty climbing one flight of stairs without resting?” from SHARE | |
| **Fatigue** | Answer YES to the self-reported question: “In the last month, have you had too little energy to do things you wanted to?” from SHARE | Answer YES to the self-reported question: “Do you feel full of energy?” from the Geriatric Depression Scale | Answer YES to the self-reported question: “In the last month, have you had too little energy to do things  you wanted to?” from SHARE | | | |
| **Weight loss / Low Appetite** | ROME III Questionnaire: >4.5kg in 1 year or >5% in year 1 at follow up | Answer of "Less than usual" to the self-reported question:  “What has your appetite been like?” from SHARE | ROME III Questionnaire: >4.5kg in 1 year or >5% in year 1 at follow up | Answer of "Less than usual" to the self-reported question:  “What has your appetite been like?” from SHARE | | |
| **Slowness / Aerobic** | Gait Speed of ≤0.65m/s (men ≤173cm, women ≤159cm), ≤0.76 (men >173cm, women >159cm) by Short Physical Performance Battery | n/a | Answer YES to self-reported question: “Because of a health problem, do you have any difficulty walking 100 meters?” from SHARE | Answer YES to either one of the following self-reported questions:  a. “Because of a health problem, do you have any difficulty walking 100 meters? (Exclude any difficulties that you expect to last less than three months.)”  b. “Because of a health problem, do you have any difficulty climbing one flight of stairs without resting? (Exclude any difficulties that you expect to last less than three months.)”  item 3 and/or item 4 SHARE-FI (see there "Resistance" and "Aerobic") | Answer YES to self-reported question: “Because of a health problem, do you have any difficulty walking 100 meters?” from SHARE | |
| **Low Activity Level** | Answer of “Less than once a week" to the self-report question: “How often do you engage in activities that require a low or moderate level of energy such as gardening, cleaning the car, or doing a walk?” from SHARE | n/a | n/a | Answer of “Less than once a week" to the self-report question: “How often do you engage in activities that require a low or moderate level of energy such as gardening, cleaning the car, or doing a walk?” from SHARE | | |
| **Multimorbidity** | n/a | n/a | Self-Administered Comorbidity Questionnaire,  more than 5 illnesses | n/a | n/a | |

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| **Supplementary Table 2.** Number of participants with missing values by frailty instrument | | | | | |
|  | **PFP** | **SOF-FI** | **FRAIL-Scale** | **SHARE-FI1** | **SHARE-FI2** |
| **Missing 1 Variable** | 42 | 37 | 34 | 5 | 0 |
| **Missing 2**  **Variables** | 3 | 10 | 1 | 1 | 0 |
| **Missing ≥3 Variables** | 10 | n/a | 12 | 12 | 13 |

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| **Supplementary Table 3. Prevalence** **of Pre-Frailty by Instrument** **in DO-HEALTH**  at baseline according to country (study site), age, and gender | | | | | |
|  | **Fried** | **SOF** | **FRAIL-Scale** | **SHARE-FI1** | **SHARE-FI2** |
|  | (n=2,144) | (n=2,144) | (n=2,144) | (n=2,144) | (n=2,144) |
| **Country** (study site) |  |  |  |  |  |
| Switzerland | 418 (41.6) | 252 (25.1) | 265 (26.4) | 435 (43.3) | 343 (34.1) |
| (Zurich) | 226 (41.0) | 129 (23.4) | 121 (22.0) | 237 (43.0) | 174 (31.6) |
| (Basel) | 95 (37.6) | 68 (26.9) | 65 (25.7) | 98 (38.7) | 80 (31.6) |
| (Geneva) | 97 (48.3) | 55 (27.4) | 79 (39.3) | 100 (49.8) | 89 (44.3) |
| Portugal (Coimbra) | 172 (57.3) | 96 (32.0) | 110 (36.7) | 154 (51.3) | 136 (45.3) |
| France (Toulouse) | 122 ( 42.2) | 67 (23.2) | 84 (29.1) | 124 (42.9) | 104 (36.0) |
| Germany (Berlin) | 130 (37.1) | 86 (24.6) | 92 (26.3) | 141 (40.3) | 97 (27.7) |
| Austria (Innsbruck) | 80 (40.0) | 55 (27.5) | 48 (24.0) | 82 (41.0) | 60 (30.0) |
| *P* values | *<0.0001* | *0.0966* | *0.0052* | *0.0497* | *<0.0001* |
| **Age Group** |  |  |  |  |  |
| <75 years | 502 (40.7) | 282 (22.9) | 311 (25.2) | 518 (42.0) | 381 (30.9) |
| ≥75 years | 420 (46.2) | 274 (30.1) | 288 (31.7) | 418 (45.9) | 359 (39.5) |
| *P* value | *0.0114* | *0.0002* | *0.0010* | *0.0679* | *<0.0001* |
| **Gender** |  |  |  |  |  |
| Men | 310 (37.6) | 164 (19.9) | 144 (17.5) | 321 (39.0) | 218 (26.5) |
| Women | 612 (46.4) | 392 (29.7) | 455 (34.5) | 615 (46.6) | 522 (39.6) |
| *P* value | *<0.0001* | *<0.0001* | *<0.0001* | *0.0005* | *<0.0001* |
| All values are n (%),of the total 2,157 participants of DO-HEALTH, 2,144 (99.4%) had complete data at baseline on at least three of the variables for all frailty measures (Fried PFP: 42 missing 1 variable, 3 missing 2 variables, 10 missing 3 variables; SOF-FI: 37 missing 1 variable, 10 missing 2 variables; FRAIL-Scale: 34 missing 1 variable, 1 missing 2 variables, 12 missing ≥3 variables; SHARE-FI1: 5 missing 1 variable, 1 missing 2 variables, 12 missing ≥3 variables; SHARE-FI2: 13 missing ≥3 variables) and were included in this analysis. In all, 1,005 participants were from Switzerland (1 participant was excluded from Zurich), 350 from Germany, 300 from Portugal (1 participant excluded), 289 from France (11 participants excluded), and 200 from Austria). Chi-square tests were used to compare frailty between subgroups by country, age and gender. | | | | | |

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| **Supplementary Table 4**. **Association of demographic factors with Physical Frailty Phenotype** (PFP) at baseline according to country (study site), age, and gender | | |
|  | **Pre-frailty**  OR (95% CI) | **Frailty**  OR (95% CI) |
| **Country** (study site) |  |  |
| Switzerland |  |  |
| (Zurich) | ref | ref |
| (Basel) | 0.86 (0.63-1.17) | 1.23 (0.35-4.24) |
| (Geneva) | 1.33 (0.96-1.85) | 0.78 (0.16-3.80) |
| Portugal (Coimbra) | **1.90** **(1.43-2.53)** | **12.00** **(5.30-27.21)** |
| France (Toulouse) | 1.04 (0.78-1.39) | 2.14 (0.76-5.97) |
| Germany (Berlin) | 0.85 (0.64-1.13) | 0.49 (0.10-2.38) |
| Austria (Innsbruck) | 1.02 (0.73-1.42) | n.e.\* |
| **Age group** |  |  |
| <75 years | ref | ref |
| ≥75 years | **1.20** **(1.00-1.42)** | **2.00** **(1.17-3.45)** |
| **Gender** |  |  |
| Men | ref | ref |
| Women | **1.45** **(1.21-1.73)** | **2.84** **(1.48-5.44)** |
| Total n=2,144, association of demographic factors evaluated using logistic regression. Ref, Reference; \*OR for Austria not estimable with no frail participants | | |