**Supplemental Data**

For Age and Ageing paper: *Interventions to prevent or reduce the level of frailty in community-dwelling older adults: a scoping review of the literature and international policies*

**Table A Characteristics of included studies**

| **First author and publication year** | **Design (how many arms)** | **Country** | **Randomization procedure used** | **Level of Blinding used** | **Number of participants** | **Response rate** | **When started study and Study duration** | **Attrition rate** | **Type of analysis (intent to treat)?** | **Statistical analysis used** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Binder 2002[1] | RCT | USA | A computer generated random per mutation procedure and block design. R to IG compared to control was 3:2 | NR | 119 | 43% of those who were eligible based on screening | NR, 9 months | 27% | NR | Mixed Model repeated measures analysis of variance |
| Cameron 2013 [2] | RCT | Australia | A permuted block randomization approach with two strata (frail with 3 CHS criteria) and very frail with 4-5 CHS criteria) using SPSS to generate a random number sequence. Project staff not managing assessments or intervention were responsible for the randomization allocation | Yes single blinding used | 241 | 75% | January 2008, 12 months | 10% | Yes | Chi-square test and linear regression models were used. |
| Cesari 2015[3] | RCT | 4 sites in the US | Web system |  | 424 | NA | NR, 1 year | None | Yes | Mixed effect models for continuous outcome and GEE with logit link for binary frailty outcomes adjusted for baseline frailty, group assignment, interaction term between group and assessment time, gender and diabetes |
| Chan 2012[4] | RCT 2 by 2 factorial design | Taiwan | Computer based | yes single blinding used | 117 | 77.5% of those eligible in second screen | NR, 1 year | 16.60% | yes | GEE with adjustment for time and treatment by time interactions. The model was also adjusted for baseline variables including age, gender, MMSE, health care utilization, EQ-5D, FFM, BMD, one-leg stand and Vitamin D level |
| Gill 2003 [5] | RCT cross-over trial | USA | Participants were randomized within strata defined on recruitment strategy and level of frailty using a computer-generated algorithm | yes single blinding used | 188 | 87% | October 1998, 12 months | 5% | yes | GLM |
| Gine-Garriga 2010 [6] | RCT | Spain | A computer generated algorithm was used but no details provided on who did the randomization |  | 51 | 67% | January-March 2009  36 weeks, 6 months after completion of the training | Dropout was 20% by week 12 and 49% by week 36 | NR | Linear mixed modeling |
| Gustafsson 2012 [7] | RCT | Sweden | Opaque sealed envelopes were used | yes single blinding used | 459 | ? | Nov 2007, 2 year | 9% at 3 months and 15%and 1 year and 25% at 2 year | yes |  |
| Kim 2015 [8] | RCT cross-over trial | Japan | The PI assigned participants to the group using a random allocation sequence generated by the computer | yes double blinding used | 131 | 39.60% | July 1, 7 months | 6% | NR | ANCOVA |
| Kwon 2015[9] | RCT | Japan | The PI of the study used SPSS to generate a random allocation sequence and enrolled the participants and assigned participants to the groups with help of 2 co-Investigators | yes single blinding used | 89 | of those who were screened 214 were eligible and 89 accepted =41.5% | Nov 5, 9 months | 11% | NR | Repeated ANOVA |
| Li 2010[10] | RCT | Taiwan | NR | NR | 310 | 87% | Nov 2007, 6 months | 13% | yes | At 23 months they conducted chi-square tests, at 12 and 24 months they also used chi-square tests |
| Ng 2015 [11] | RCT, Parallel group RCT | Southwest region of Singapore | A central computerized randomization procedure was used to randomly allocate a total of 246 participants: 49 in the nutrition supplementation group, 50 in cognitive training, 48 in physical training, 49 in combination, and 50 in the control group. The randomization sequence was generated in permuted blocks (10 per block) | NR | 246 | 91% | October 2009, 12 months | 4-10% | Yes | Comparisons across treatment groups were performed by ANOVA for continuous variables or chi-square tests for categorical variables. Frailty score and measures of individual frailty components were analyzed as dependent variables using linear mixed-effect modeling methods, assumed random missing values Logistic regression was performed for dichotomous outcome variables |
| Tarazona-Santabalbina 2016 [12] | RCT | Spain | Health centres were randomized instead of patients but how is NR | yes single blinding used | 100 | 100% Of those eligible | December 1 2013, 6 months | 0 | yes | T-tests and chi-square tests |
| **Cohort study** | | | | | | | | | | |
| Mitoku 2014[13] | Cohort | Japan | NA | NA | 547 | NA | April 1 2003,  6 years max | 0 | NA | Cox proportional hazards analyses adjusted for age, diseases and care level |
| Yamada 2012[14] | Cohort | Japan | Propensity score matching was used to match on baseline characteristics | NA | 610 | NA | April 2009, 1 year | 0% | NA |  |

R=Randomization; IG=intervention group; NR= Not Reported; CHS= Cardiovascular Health Study; SPSS=Statistical Package for Social Sciences;NA=Not Available; GEE= Generalized estimating equations; MMSE= Mini mental state examination; EQ-5D=Euroqual 5 dimensions; FFM= Fat Free Mass; BMD=is mineral bone density; GLM= General linear Model; ANCOVA is analysis of covariance; SD= standard Deviation.

**Table B Characteristics of included participants**

| **First author and publication year** | **% women** | **Frailty definition used in study** | **Inclusion criteria** | **Exclusion criteria** | **Sample size and mean age of participants** | **Functional status disability and comorbidities** | **Cognitive status** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Binder 2002[14] | CG (home exercise) 53% IG 52% | Mild to moderate physical frailty based on 3 measures: 1) the Physical Performance Test (PPT), 2) activities of daily living (IADL and ADL), 3) measurement of peak oxygen uptake (VO2 max) | At least 2 out of 3 frailty criteria: 1)score 18-32 on modified PPT, 2) report difficulty/needing assistance with 1-2 IADL or 1 ADL, 3) VO2peak between 10 and 18 ml/kg/min (normal for 75-80 healthy individual is 18-30 ml/kg/min) | (1) did not meet two of our three frailty criteria; (2) medical conditions that would contraindicate vigorous exercise; (3) neuromuscular disorders unlikely to improve with exercise; (4) chronic use of corticosteroids, immunosuppressive drugs, or androgen-, estrogen-, or progestin containing compounds; (5) cigarette use within the previous year; (6) diagnosis of cancer within the previous 5 years; (7) sensory impairments that would interfere with following instructions for testing or ET; or (8) significant cognitive impairment | N= 119  mean age 83 SD 4 | In the CG, 49% had HTN, 12% DM, 25% CAD, 8% CHF, 78% arthritis and 23% had a joint replacement. In the IG 55% had HTN, 9% DM, 23% CAD, 2% CHF, 74% arthritis and 12% joint replacement | Significant cognitive impairment was an exclusion criteria (not specified).  The short Blessed Test of Orientation, Memory and Concentration mean IG group 3.0 SD 2.9, CG mean 2.3 SD 2.4 (‘normal’) |
| Cameron 2013 [22] | 68% | The Cardiovascular Health Study frailty criteria consisting of 5 frailty markers; 3 or greater defines presence of frailty | Aged 70 years and over and meeting 3+ CHS frailty criteria: -weight loss of >4.5 kg unintentionally in previous 12 months or greater than 5% of total body weight; weakness lowest 20% of grip strength: 18 kg for women and 30 kg for men; exhaustion 92 CES-D items; slowness >6 sec for 4 m, and low physical activity (no weight bearing activity, more than 4 hrs/day sitting, only going for a short walk once a month or less), and not participating in another intervention study | severe cognitive impairment defined as a MMSE of ≤18), not an ongoing client of Division of Rehabilitation and Aged Care Services, Participants living in a residential care setting, have an illness with estimated life expectancy < 12 months as measured by the Implicit Illness severity scale <4, and | N=241  mean age 83.3 SD 6 | The mean number of comorbidities was in the IG 5.9 SD 2.3 and CG 5.8 SD 2.2. The mean Barthel index in the IG was 93.9 SD 11.1 and CG 92.5 SD 14. 3 (100 max best score) | MMSE 26.6 ±2.59 in IG and 25.9 ±3.14 in CG |
| Cesari 2015[13] | 68.9 | Frailty was defined using the CHS frailty criteria, the presence of ≥3 criteria identifies frailty, with 1–2 representing pre-frailty, and no criteria indicates fit/robust | Men and women aged 70-85 years, summary score <10 on SPBB, able to walk 400 min in 15 min without help/sitting down, sedentary lifestyle, staying in the area during study, and able to give IC and complete run-in successfully | Patients with severe/uncontrolled diabetes/HTN/cardiac issues were excluded. | N=424  Mean age 76.8 SD 4.2 | The proportion of persons with three or more chronic conditions was 22.3 in control (successful aging) and 27.7 in pa group | NR |
| Chan 2012[17] | 59% | Frail and Pre-frail older adults screened with the Chinese Canadian Study of Health and Aging Clinical Frailty Scale Telephone Version (CCSHA\_CFS\_TV) score 3-6.  The CHS frailty phenotype was used to select frail and pre-frail older adults for the on-site screening. | Community-dwelling older adults from 65 to 79 years of age in Toufen Township (N = 6,828). score 3-6 were eligible | Institutionalized; communication barriers; and scores of 1, 2, (too healthy) or 7 (too ill) on the Chinese Canadian Study of Health and Aging Clinical Frailty Scale Telephone Version.  Older adults with a MMSE <16, Barthel index < 34, those with an active alcohol-abuse problem, mental disorders under active psychiatric care and A CHS frailty score of 0 in the on-site assessment. | N=117  mean age 71.4 SD 3.7 | At baseline EN mean group comorbidities is 4.0, non-EN is 3.1, PST is 3.8 and non-PST 3.2. Mean Barthel score EN is 98.8, non EN 97.9, PST 98.2 and non PST 98.4 (100=independent) | The MMSE score was 24.4 ± 3.9 in IG and 24.1 ± 3.9 in CG |
| Gill 2003 [15] | 90% | Aged 75 and older physically frail which as determined by 2 tests (rapid gait speed) and single chair stand. | Physically frail community-dwelling people aged 75 years and over in Southern Connecticut (USA). | Non ambulatory without assistance, NH patients, enrolled in wellness program, severe sensory impairment, life expectancy < 12 months, physically very active, receiving PT, stroke, hip fracture or hip or knee replacement < 6 months, MI < 6 months | N=188  mean age 83 SD 5 years | IADL score in intervention group 3.2, control 3.7 (0=independent, 10 disabled in all act), the mean number of chronic conditions was 2.1 in IG and 2.0 in CG. | The MMSE score was 26.7 in IG and 26.3 in CG. |
| Gine-Garriga 2010 [16] | 61% | Physical frailty was defined using the results of 2 tests: need more than 10 s for 3 m gait speed test, could not stand up 5 times in the chair stand test), or using the 2 CES-D items including self-reported exhaustion | Older adults aged 80-90 registered in a primary health care centre in the Barcelona (Spain) area. | Unable to walk, were undergoing an exercise program, had a diagnosis of severe dementia (not able to understand or follow verbal commands), or had had a stroke, hip fracture, myocardial infarction or hip- or knee- replacement surgery within the previous 6 months | N=51  mean age intervention group 84.1 (SD 3) and control 83.9 (SD 2.8) | Mean Barthel index at baseline for intervention was 73.4 (SD 2.35) and control 70.8 (SD 2.35) BI scale ranges 0-100. There is no count of the number of medical comorbidities. The percentage in intervention group with stroke was 27%, HTN 59%, arthritis 18%, DM 32% and for the control group that was 26%, 74%, 26% and 32% | NR |
| Gustafsson 2012 [23] | 64% | Frailty was measured using modified CHS criteria: weakness, fatigue, weight loss, low physical activity, poor balance and slow gait speed. The sum of the number of frailty markers was used in the analyses. In the long-term analyses, 2 additional frailty markers: visual impairment and cognition. | Community-dwelling, not dependent on municipal home help service or care, to be independent form another person in ADLs and a MMSE>25 |  | N= 459  mean age control was 86 (range 80-97), preventative home visit mean age 86 (range 80-94) and senior meetings mean 85 (range 80-94) | at baseline no ADL impairment, number of chronic conditions is not reported, median sum of frailty indicators is 1 in each group (range 0-5) and the self-rated health good/very good is 79% in control, 80 in preventative home visit and 8 in senior group meetings | MMSE > 25 |
| Kim 2015 [18] | 100% | The CHS frailty criteria. Frailty =meeting 3 or more of the 5 frailty criteria including unintentional weight loss greater than 2 kg in past 6 months, grip strength below 10.0 kg, usual walking speed less than 1.0m/sec, answering positive to 1 of 2 self-reported exhaustion questions, and answered true to 1/4 physical activity questions (not walking each week, not exercising regularly, no hobbies and no social participation in any group). | Women defined as frail and who were residing in the Itabashi Ward of Tokyo, Japan, and who were aged 74 years and over. | MMSE<24, severe knee/back pain, impaired mobility or unstable cardiac conditions | N=131  mean age 81 SD 3 years | IADL and ADL not reported | MMSE>24 |
| Kwon 2015[19] | 100% | Adjusted CHS frailty criteria.  Pre-frail: muscle weakness (handgrip strength in lowest quartile at baseline <23 kg), and slow gait speed (lowest quartile of usual walking speed at baseline< 1.52 m/s. | Pre-frail elderly women aged 70 years and older living in the Itabashi Ward, Tokyo, Japan. | Those with a serum albumin >4.5 mg/dl and those with serious MSK conditions or taking CA/ Vitamin D supplements | N=89  mean age 76.8 range (70-84) | At baseline in the EN group 46% has HTN, 4% stroke, 4% DM, 19% heart disease and 39% hyperlipidemia. In the E group 44% has HTN, 4% stroke, 8% DM, 16% heart disease and 52% hyperlipidemia, in the C group 43% HTN, 11% stroke, 7% DM, 18 % heart disease and 57% hyperlipidemia. No ADL or IADL reported | NR |
| Li 2010[21] | 48% | Meeting CHS/ Fried's frailty phenotype criteria for pre-frail and frail (no further details provided). | Living in 2 neighbourhoods in Taipei, aged 65 years and over, meeting the frailty criteria | Bedridden, receiving home care by visiting nurses, less than six month life expectancy and difficulty in verbal communication | N=310  mean age intervention group is 78.4 SD 8.2 and the CG is 79.3 SD 8.5 | At baseline ADL and comorbidities are not reported. Poor or fair self-rated health was present in 30% of the IG and 31% of the cg. The mean Barthel index in the IG was 95.7 SD 15.7 and in the CG 92.8 SD 15.7 | NR |
| Ng 2015 [5] | 61% | Frailty was defined using the CHS frailty phenotype: unintentional weight loss, slowness, weakness, exhaustion, low activity. Pre-frail= 1or 2 criteria, frail=3 or more criteria present. | Pre-frail or frail older adults were eligible for the trial if they were aged 65 years and above, able to ambulate without personal assistance, and living at home. | Participants were excluded if they had significant cognitive impairment (Mini Mental State Examination score <23); major depression; severe audiovisual impairment; any progressive, degenerative neurologic disease; terminal illness with life expectancy <12 months; were participating in other interventional studies; or were unavailable to participate for the full duration of the study | N=246  Mean age 70.0, SD 4.7 | Approximately 28% were “frail” (3 or more CHS criteria) (n = 68), and 72% were pre-frail (1-2 CHS criteria). Frailty symptoms were predominantly exhaustion (95%) and weakness (51%), followed by slowness (36%), low physical activities (22%), and 5% weight loss. Only 3% (n = 7) were disabled on at least one IADL-ADL activity | MMSE was 28.8± 1.7 in nutritional group, 29.1± 1.3 in cognitive training group, 29.1 ±1.2 in physical training, 29.1±1.1,in combination, 28.6 ±1.8 in control group |
| Tarazona-Santabalbina 2016 [20] | 54% | The CHS frailty phenotype and the Edmonton Frailty Scale were used. The sum of the scales (CHS 0-5, Edmonton frail scale 0-18) were used in the analyses. | Men and women aged 70 years and older who were: 1) less than 3 hours per week physically active, 2) frail according to the frailty phenotype 3)gait speed lower than 0.8 m/s and 4) community dwelling | 1) life expectancy less than 6 months, 2) cognitive impaired (MMSE<24 or Global disability score 7c-7d), 3) Barthel index<15 indicating severe disability, 4) EF left ventricle < 20%; 5) hospital admission in past 3 months (any reason); 6) cancer diagnosis with active chemo/rad treatment; 7) major surgery in past 6 months; 8) family member centenarian in past 2 generations; 9) coronary event past 12 months; 10) institutionalized, 11) no transportation to get to study centre | N=100  mean age intervention group 79.7 (SD 3.6) and control 80.3 (SD 3.7) | In the intervention group the BI before intervention was 88.2 and in control 88.3. In the intervention the prevalence of HTN is 86.3%, hyperlipidemia 56.9, DM 37.3, COPD 13.7, arthritis 68.6, heart failure 23.5, and stroke 7.8. Mean Charlson index was 2.4. In the control group the prevalence was 67.3 HTN, HLP 55.1, DM 30.6, COPD 2%, arthritis 46.9, heart failure 14.3 and mean Charlson 1.9 | MMSE was 28.9 ±3.9 in IG vs 25.9 ± 7.3 CG |
| Mitoku 2014[25] | **Cohort study** | Definition developed by authors. Frailty= a change in of care level that was ascertained on the basis of the eligibility data for the long-term care insurance program. | Participants aged 65 and older who were new receipts of the long-term care insurance program in Gujo City between April 1 2003 and Dec 31 2004 who were classified as care level low or moderate | Older adults who required a high level of care were excluded because they might have al­ready modified their homes due to their disabilities. | N= 547  mean age 81.4 SD 7.1 | the table with characteristics of all participants is missing | NR |
| Yamada 2012[24] | 65% | Frailty was defined as those who need help to maintain or improve daily functions. These individuals are not eligible for long term care but have a high risk of becoming dependent. It is measured with the frailty checklist which includes yes/no questions with regard to lifestyle, motor abilities, nutrition, oral care, seclusion, forgetfulness and emotions. A score of 10 or more on items 1-20 is considered frail. | ADL independent and live in 2 geographical areas (Maibura City and Maizuru City, Japan). | Those ADL dependent and already eligible for Long term care insurance benefits were ineligible. | N=610  mean age exercise group 79.7 SD 6.3 and mean age control group 80.3 SD 6.6 | At baseline no participant had ADL disability (inclusion criteria). Chronic health conditions are not reported. Total frailty checklist score exercise group 7.4 (SD 4.0) and control group 7.3 (SD 4.3) | NR |
|  | 77% |  |  |  |  |  |  |

IADL is Instrumental Activities of Daily Living; ADL is Activity of Daily Living; VO2 max= maximum volume of Oxygen consumption; SD= Standard Deviation; CG=control group; IG= intervention group; HTN= Hypertension; DM= Diabetes Mellitus; CAD= Coronary Arterial Disease; CHF= Congestive Heart failure; CHS= Cardiovascular Health Study; CES-D= Center for Epidemiological Studies Depression scale; MMSE= Mental Mini State Examination; SPBB =Short Physical Performance Battery; EN= Exercise and Nutrition; PST= Problem Solving Therapy; NH= Nursing Home; PT= Physical therapy; MI=Myocardial Infarction; MSK=Musculoskeletal conditions; Ca=Calcium; EF= Ejection Fraction; COPD= Chronic Obstructive Pulmonary Disease.

**Table C Quality assessment of included studies**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **First Author and publication year in alphabetical order** | **Are there clear qualitative and quantitative research questions?** | **Do the collected data allow address the research question?** | **Quantitative Randomized Controlled Trial** | | | |
| **Is there a clear description of the randomization?** | **Is there a clear description of the allocation concealment?** | **Are there complete outcome data (80% or above)?** | **Is there a low withdrawal/drop-out (below 20%)?** |
| Binder 2002[1] | Yes | Yes | Yes | Can’t tell | Yes | No (73% completes study) |
| Cameron 2013 [2] | Yes | Yes | Yes | Yes | Yes | Yes |
| Cesari 2015[3] | Yes | Yes | Yes | Yes | Can’t tell | Can’t tell |
| Chan 2012[4] | Yes | Yes | Yes | Yes | Yes | Yes |
| Gill 2003 [5] | Yes | Yes | Yes | Yes | Yes | Yes |
| Gine-Garriga 2010 [6] | Yes | Yes | Can’ t tell | No | Can ’t tell | No (drop out intervention group 24%) |
| Gustafsson 2012 [7] | Yes | Yes | Yes | Yes | Yes | Yes |
| Kim 2015 [8] | Yes | Yes | Yes | Yes | Yes | Yes |
| Kwon 2015[9] | Yes | Yes | Yes | Can’t tell | Yes | Yes |
| Li 2010[10] | Yes | Yes | Can’t tell | Can’t tell | Can’t tell | Can’t tell |
| Ng 2015 [11] | Yes | Yes | Yes | Yes | Yes | Yes |
| Tarazona-Santabalbina 2016 [12] | Yes | Yes | Yes | Can’t tell | Yes | Yes |
| **First Author and publication year** | **Are there clear qualitative and quantitative research questions?** | **Do the collected data allow address the research question?** | **Quantitative non-randomized** | | | |
| **Are participants recruited in a way that minimizes selection bias?** | **Are measurements appropriate (clear origin, validity known, standard instrument; absence of contamination between groups when appropriate) regarding the exposure/intervention and outcomes?** | **In the groups being compared, are the participants comparable, or do the researchers take into account (control for) the difference between these groups?** | **Are there complete outcome data (80% or above), and, when applicable, an acceptable response rate (60% or above), or an acceptable follow-up rate for cohort studies?** |
| Mitoku 2014[13] | Yes | Yes | Yes | Yes | Can’t tell (NR ) | Yes |
| Yamada 2012[14] | Yes | Yes | Yes | Yes | Yes | Yes |

NR Not reported

**Table D characteristics of intervention studied**

| **First author and publication year** | **Intervention** | | **Control group** | **Who delivered the intervention** | **Duration of the intervention** | **Adherence to the intervention** | **Adverse events during intervention?** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Binder 2002[1] | 3 group classes per week for 9 months including flexibility, balance and coordination, strength, resistance and endurance training. | | Control group received a 9 month low-intensity home exercise program | Exercise physiologist conducted PA intervention, it is not reported who provided SA control intervention | 9 months | 100% | 2 shoulder injuries in the exercise group |
| Cameron 2013 [2] | The IG received a multifactorial intervention addressing their frailty characteristics assessed at baseline. Case management and weekly case conferences will be carried out | | The control group will receive usual care from their GP and community services | The intervention is delivered by geriatrician, nurses, rehab physician, dieticians, psychiatrists/psychologists, PT, GP as appropriate | 1 year | 97% of participants attended all senior meetings | No adverse events |
| Cesari 2015[3] | Physical activity including aerobic, strength, flexibility and balance training with activity increasing over first 2-3 weeks to meet 150 min of walking per week | | Successful aging program consisting of health education, once a week for the first 26 weeks and monthly after (included nutrition, medication, foot care, preventive services) | Exercise physiologist conducted PA intervention, it is not reported who provided SA control intervention | 1 year | 70% in both groups | 2 life threatening events, 17 hospitalizations and 6 abnormal labs control (successful aging group) 1 life threatening event, 27 hospitalizations and 5 abnormal labs |
| Chan 2012[4] | EN =exercise and nutrition (structured exercise course at the hospital 3 times a week for 3 months, each session 1 hr. (warm up, stretching, strength, resistance training, postural control activities and balance training and cool down). PST=problem solving therapy. PST consisted of 6 sessions of evidence based psychotherapy to learn people how to solve here-and-now problems contributing to mood related problems and increase self-efficacy | | All participants were given an educational booklet on frailty, healthy diets, exercise protocols and self-coping strategies. | face-to-face PST by trained case managers, EN not reported | 3 months | Completion of the intervention was poor, 11/55 EN group attended >50% of sessions and 16/57 completed PST sessions | Not reported |
| Gill 2003 [5] | The IG received a six-month a home based program. Each participant was assessed by PT and had an environmental assessment of the home. Based on the assessments a plan was developed that included bed mobility, transfers, indoor gait, and outdoor mobility. Progressive competency based exercises were developed for ROM, balance, muscle conditioning and strengthening. Participants were instructed to do balance exercises daily and others three times per week. The plan was to have 16 visits in six months, and after the participants received a monthly call for another 6 months | | The CG participants received a monthly visit of 45-60 min from a health educator on general health topics and health promotion based on healthy people 2000 recommendations. After the six month period the health educator called the participant monthly for another 6 months | In home PT in IG, health educator in CG | 12 months | 73%-79% for various exercises | Adverse event rate was same in intervention and control group |
| Gine-Garriga 2010 [6] | The intervention consisted of a training twice weekly (45 min sessions) in an indoor primary care facility. It focused on functional balance and lower body strength. Each session began with a warm-up, walking at usual pace for 10 min and ended with cool-down stretching for 5 min. Participants received balance activities that were designed to challenge the visual, vestibular and somatosensory systems (including such as walking with obstacles, in the dark, carrying packages etc.). It included static and dynamic balance and dual tasks (cognitive and functional tasks) and different gait patterns. When each step was completed the participant received more complex exercises | | The participants met once weekly in the training facility for social meetings with the researchers and included 4 health education classes. | Face to face in group sessions by the researchers but it is not clear what they are | 12 weeks | 76% | No adverse events |
| Gustafsson 2012 [7] | Intervention A; Senior meetings and one follow-up home visit; 4 weekly educational senior meetings with no more than 6 participants in each group. A follow-up home visit took place about 2-3 weeks after the group had completed the group education The clients were also informed about help and support of various kinds offered either by volunteers or by professionals employed by the municipality. They were also informed about assistive devices and adaptation of housing. Fall risks were also identified and advice on how to prevent falls were also included in the home visit. Information was also given about who they could contact for different problems | | Control group received usual care | face to face PT, OT, RN, SW | 4 weeks | 97% of participants attended all senior meetings | no adverse events |
| Kim 2015 [8] | The exercise group received physical comprehensive training program of moderate intensity twice weekly 60 min for 3 months. The classes consisted of warm-up, balance, strengthening, gait training, and cool-down. The resistance/progression was increased when it was safe based on fatigue and proper execution of the exercise. The MFGM supplementation group was provided with supplements in pill form every 2 weeks and it included 22% protein, 44% fat, 27% carbohydrates and 33% phospholipids. Each pill contained 167 mg of MFGM and six pills (total 1 g) were to be ingested in the morning prior to activity. The pills were yogurt flavoured and they could be swallowed or chewed | | The placebo group got a pill that followed the same protocol as the MFGM group but the pills consisted of whole milk powder. The composition of the milk powder was 26% protein, 25% fat, 40% carbohydrates and 0.3% phospholipids | Exercise instructor with 2 assistant trainers | 3 months | Not reported | Not reported |
| Kwon 2015[9] | The exercise program aim was to maintain/improve physical strength required for independent living by implementing exercises that enhance muscular strength and balance. The training was conducted 1 hr. per week and consisted of warm-up/stretching, exercises aimed at improving strength and balance, and cool down. The nutrition program was based on acquiring healthy eating habits focused on strengthening muscles through cooking practice using ingredients rich in protein and vitamin D. The class was held once a week. The typical meal existed of 20-22 gr protein, 5-10 microgram vitamin D and 350-400 Kcal. | | The control group received general health education sessions once a month (3 in total) by a physician, certified health fitness trainer and dietician with advice on physical training to prevent falls, urinary incontinence and dietary guidelines for health aging. | In group sessions. certified health fitness trainer and MD plus assistants for E and 4 certified dieticians for the N | 3 months | Not reported | Not reported |
| Li 2010[10] | A CGA followed by care based on the assessment results in the community-hospital. The care was directed by 2 geriatricians tailored to the individual needs | | Usual care | face-to face geriatrician plus referred to other health care workers | 6 months | Not reported | Not reported |
| Ng 2015 [11] | Physical intervention, Nutritional interventions, cognitive interventions and combination interventions. The physical intervention included an exercise intervention that started at a moderate intensity level and gradually increasing over time. It consisted of 2 classes per week of 90 min for 12 weeks followed by 12 weeks of home-based exercises. The exercises were targeting strength and balance. In the nutritional intervention group participants were given Fortisip Multifibre formula and iron, folate, vitamin B6 and vitamin B12, calcium and vitamin D supplements for 24 weeks. It should provide them with 20% of their caloric intake and a third of RDA for vitamins and supplements. Participants were encouraged to attain the maximal tolerable energy intake to gain 0.5 kg per week. The cognitive intervention consisted of a weekly 2hr training to stimulate memory (short-term), and improve attention and information-processing skills as well as reasoning and problem solving capacity. From week 13-24 they received a 2 hr. booster session. The participants in the combination intervention group received all of the three individual interventions. | | Participants had access to one standard care from health and aged care services that were normally available to older people, including primary and secondary level care from government or private clinics and hospitals, and community-based social, recreational, and daycare rehabilitation services. They were given an equal volume of artificially sweetened, vanilla-flavored liquid (ingredients: non-dairy creamer, liquid caramel, sugar, and water), 2 capsules and 1 tablet (ingredients: cornstarch, lactose, magnesium stearate) that were identical in appearance to the active nutritional supplements, with instructions not to replace their meals with the supplements. | face to face for classes. The physical interventions delivered by qualified trainer, the nutritional interventions by interventional nurse who had no knowledge of the participant's status. | 24 weeks | mean compliance for combination 88%, 91% nutrition, 85% exercise and 79% cognitive training | 2 participants with discomfort with exercise regimen |
| Tarazona-Santabalbina 2016 [12] | It was a multicomponent exercise program (including endurance, strength, coordination, balance and flexibility exercises). It was 65 min a day 5 days a week for 24 weeks delivered in a group session. Each session consisted of proprioception and balance (10-15 min), aerobic training (at 40% of max HR increasing to 65%) strength training (starting from 25% of 1 repetition to max 75&) and stretching. The exercises including upper and lower body. All participants who had low plasma calcidiol levels were supplement (based on their actual level) for 3 months and after 3 months they received 1200 mg calcium and 800 IU calciferol daily. All participants received nutrition information to have a minimal protein intake of 0.8 g/kg. | | Participants received usual primary care. All participants who had low plasma calcidiol levels were supplement (based on their actual level) for 3 months and after 3 months they received 1200 mg calcium and 800 IU calciferol daily. All participants received nutrition information to have a minimal protein intake of 0.8 g/kg. | Face to face in group sessions. 4 PT and 4 RNs. | 24 weeks | 77 % of participants in intervention group had 3-6 hrs. per week exercise | Not reported |
| **Cohort study** | | | | | | | |
| Mitoku 2014[13] | Home modifications 186 (34%) and the most common ones were corridors (22%), followed by restrooms (20%), bathrooms (17%) and entrances (13%). The modifications included addition of handrails (90%), elimination of differences in floor heights (44%) and changing toilet seat (20%) | NA | | in home. not reported | one-time modification | 34% modified their home | Not reported |
| Yamada 2012[14] | 90 min of exercise group training. The exercise had a standardized format of 20 min moderate intensity aerobic exercise, 30 min progressive strength, 20 min balance and 20 min cool down. | only the screening test | | Group physiotherapist | 16 weeks | 100% | Not reported |

PA= Physical Activity; SA= Successful aging; IG= interventional Group; GP= General Practitioner; PST= Problem Solving Therapy; CG= Control Group; ROM=Range of Motion; PT= physical therapist; OT=Occupational therapist; RN= Registered Nurse; SW=Social worker; MFGM= Milk Fat Globule Membrane; RDA=Recommended Daily Allowance; HR=Heart Rate; NA is Not Available

**Table E Measures of frailty and outcomes of study**

| **First author and publication year** | **Frailty measures used** | **Level of frailty of participants pre-intervention** | **Impact of intervention on frailty outcome** | **Other outcomes studied** | **Other outcome results** |
| --- | --- | --- | --- | --- | --- |
| Binder 2002[14] | 1) score between 18 and 32 on the modified PPT, (2) Report of difficulty or need for assistance with up to two IADLs or one ADL, or (3) achievement of a VO2peak between 10 and 18 mL · kg−1· min−1 | 100% were frail | The IG compared to CG has significantly greater improvements in the modified PPT, significant improvement in VO2max, no change in ADL function | None | NA |
| Cameron 2013 [22] | The CHS criteria | At baseline in the IG 64% had 3, 28% had 4 and 8% had 5 frailty markers. In the CG 65% had 3, 25% had 4, and 10% had 5 frailty markers. | At 12 months there was a lower prevalence of frailty in the IG compared to CG group (difference 14.7%; 62% vs 76% p<0.05). At 12 months the average reduction of frailty markers was 0.8 in IG and 0.4 in CG (p<0.01). | hospitalizations and admissions to nursing homes, ADL, cost-effectiveness, psychological status, fall risks and falls, death and community-services | There was no significant difference in secondary clinical outcomes. |
| Cesari 2015[13] | The CHS criteria | Mean number of frailty marker at baseline is 1.67 (SD 1.1) | Mean number of frailty markers IG after intervention 1.2, SA group 1.5. The mean number of frailty markers in the SA group decreased 0.21 and in the IG 0.48 at 12 months (p<0.05). At 12 months the SA group had a prevalence of frailty of 19.1% and the IG 10.0 % (p<0.05) | none | At 12 months there was a difference of 0.6 between SA and PA groups in SPBB scores (in favor of PA group) and the 400 m walk speed stayed stable for the PA group and increased for the SA group. |
| Chan 2012[17] | The Chinese Canadian Study of Health and Aging Clinical Frailty Scale Telephone Version and CHS criteria | At baseline 40% was category 3 (well), 47% category 4 (vulnerable), 11% mildly frail (5) and 2% moderately frail (6). With CHS 87% were pre-frail and 13% frail at baseline | 32% of pre-frail improved to robust and 20% of frail improved to robust and 40% of the frail to pre-frail. Only 3 month difference between EN and non-EN group was significant. | Interval changes in each frailty indicator between baseline and each repeated measurement | No significant findings |
| Gill 2003 [15] | Physical frailty was defined on results on 2 physical performance tests. Persons meeting 1 criteria were moderately frail, persons meeting both criteria were considered severely frail. | In the IG 64% had moderate frailty and in the CG 60%. The others were severely frail. | At 7 months FUP, 4% of CG was unable to perform rapid gait test. In both groups about 75% of those completing the test has a time over 10 sec. At 7 months 8% of IG and 19% in control group were unable to perform chair stand. At 12 months 3% of IG and 9% of CG are unable to complete rapid gait test. At 12 months about 23% of both groups have <25% who have a rapid gait of less than 10 sec. Between baseline and 7 months the rapid gait score decreased in IG sig different from increased time in CG. Reduction in IADL disability of 17% at 7 months | IADL disability, Performance Oriented Mobility Assessment (POMA), and Physical Performance test (3 tests of upper extremity performance) | Gains (7.2-15.6%) in mobility and integrated physical performance at 7 and 12 months |
| Gine-Garriga 2010 [16] | A combination of the Gill/Tinetti and CHS/Fried criteria were used. A positive score on frailty could be : 1) a rapid gait test of 6 meter completed in more than 10 seconds; unable to complete 5 chair stand tests; a score of moderate amount or most of the time for the 2 CES-D exhaustion items | All participants were frail. At baseline in the intervention group 59% were classified as frail on item 1 or 2 of the CES-D, in the control group that was 63%-74%. At baseline the mean gait speed time needed for the IG was 11.73 (SD 0.6), and for the CG 11.87 (SD 0.65). Mean Barthel index at baseline for IG was 73.4 (SD 2.35) and CG 70.8 (SD 2.35) BI scale ranges 0-90). The mean chair stand test at baseline was 19.55 (SD 0.7) for the IG and 17.05 (SD 0.9) for CG. | The IG BI at 12 weeks was 79.3 (SD 2.35) and CG 67.9 (SD 2.5) p<0.001. The rapid gait test for the IG was 9.2 at 12 weeks and CG 12.39 and for intervention 10.05 at 36 weeks and 12.76 for control at 36 weeks. All group\*time changes significant. The chair stand test time at 12 weeks for IG was 15.55 and 36 weeks was 17.81. For the CG 17.93 at 12 and 17.47 at 36 weeks. All group\*time changes significant. The intervention group had greater improvements in all physical frailty tests and those results were maintained at week 36 and significant. | Measures of balance (semi tandem, tandem, single legs, normal gait speed, and timed up and go (modified) | For all secondary outcome measures the intervention group participants had greater improvements than the control group participants between baseline and 12 weeks and they were maintained at 36 weeks. The balance measures had significant improvement between baseline and 12 weeks and 36 weeks. Gait speed tests showed significant improvements between baseline, 12 and 36 weeks. The Modified Timed up and Go showed significant improvements between baseline and 12 weeks in all except for ball-time measure. The effects reversed between 12 and 36 weeks. With regard to strength, the maximum knee-extensor strength improved between baseline and 12 weeks. All other measures failed to show significant improvements |
| Gustafsson 2012 [23, 30] | Frailty was measured as a sum of six core frailty indicators: weakness, fatigue, weight loss, low physical activity, poor balance, and gait speed. | The median number of frailty markers in each group was 1. At baseline. At baseline 70% in the control group was pre-frail (1-2 fm), and 19% frail (>2 fm) and this was 67%/and 20% in preventative home visits group and 70%/16% in senior meetings group. | The findings showed a non-significant intervention effect. | The individual frailty markers, change in self-rated health and ADL at 3 months follow-up | Compared to control group, the 2 intervention arms had significantly less decline in self-rated health. Those in the intervention group Seniors meeting had significantly less decline in ADL function compared to control. |
| Kim 2015 [18] | CHS frailty criteria | At baseline the EX+MFGM had a mean frailty marker score of 3.8, the Ex-+placebo 3.6, the MFGM 3.7 and the placebo 3.5. at baseline the Ex+ MFGm group 33% had 3, 49% had 4 and 18% had 5 frailty markers, the ex+ placebo 54% had 3, 30% had 4 and 15% had 5 fm. the MFGM group at baseline 44% had 3, 41% had 4 and 15% had 5. The placebo 51% had 3, 46% had 4 and 3% had 5 fm. | The mean number of fm decreased in all four groups after the three month intervention but at the 7th month follow up only the reduction in fm was maintained in the two exercise groups. The percentage non-frail participants at post intervention was significantly higher in the Ex+MFGM group (58%) than in the MFGM group (28%) or placebo (30%). At 7 month fup it was also significantly greater in the ex+MFGM group (46%), and ex+placebo (39%) compared to placebo (15%). The Logistic regression showed that ex+MFGM has a significant reversal rate of frailty (OR 3.12 95%CI 1.13-8.60) at 3 months and at 7 months for Ex+Plac (OR 3.64 95%CI 1.12-11.85) and ex+MFGM (OR 4.67 95%CI 1.45-15.08). | Each individual frailty criterion (weight loss, walking speed, weakness, exhaustion and physical activity) | Weight loss was only reversed between baseline a fup in the Ex+MFGM (39%) and Ex+placebo group (33%). Reversal of exhaustion was seen in all groups (ranging from 42% for those with Ex+placebo, to 33% (ex+MFGM) to 25% for MFGM to a -6% for the placebo group. Low physical activity was also reversed in all groups, but the Ex+ MFGM was to only group to maintain the effect at 7 month fup (36%). Slow walking speed was reversed by 42% in the Ex+MFGM group which was sig compared to the MFGM and placebo groups. There was no significant reversal of low muscle strength in any of the groups. |
| Kwon 2015[19] | Modified CHS frailty criteria | 100% were pre-frail The hand grip strength at baseline for the EN group was 15.5 SD 3.6, E group 14.8 SD 3.3 and C group 16.2 SD 3.2 kg. Walking speed EN group 1.05 m/s SD 0.22, E group 1.07 SD 0.24 and C group 1.06 SD 0.22 | For the EN and E group significantly improved between intervention and post intervention but declined between post intervention and follow up. The other frailty makers showed non-significant changes. | SF-36 subscale scores | In the EN group physical function, improved significantly between post interventions compared to baseline. In the E group, the mental health subscale significantly increased post intervention compared to baseline. The bodily pain scores significantly decreased in all three groups during the follow-up. |
| Li 2010[21] | CHS frailty criteria but they don’t report the cut-offs | At baseline 17% in the IG and 19.6% in the CG were frail. 83# is pre-frail in the IG and 80.4% in the CG group. At baseline there are 0 non-frail participants. | The findings showed an non-significant intervention effect | Barthel index | NS. The Barthel index in IG improved in 5% and 1% in CG. The number of participants who declined in BI was 9% in IG and 10% in CG. |
| Ng 2015 [5] | Pre-frail and frail older adults were identified based on 5 CHS criteria defining physical frailty. | Frailty score in each group at baseline Nutrition (2.1), Cognitive (2.0), physical (2.2), combined (2.1) control (1.8). | Post at 12 months in each group Nutrition (1.5), Cognitive (1.4), physical (1.4), combined (1.2) control (1.6). The control group had 15% reduction in frailty and the intervention groups had a reduction ranging from 36-48%, with the highest reduction seen for the combination intervention, followed by exercise, cognitive function intervention and nutrition. There was a significant main effect of time (P < .001), with the mean frailty score decreasing over the 12 months across all groups, and significant group by time interaction (P < .044). At 12 months, all interventions showed significant differences vs control at the pre hoc significance level of P < .05. Result for frailty domains no significant main effects of group or group by time interaction. | The secondary outcomes were self-reported hospitalizations, self-reported falls, and instrumental activities of daily living (IADL) and activities of daily living (ADL) dependency. | No significant differences vs controls were observed. |
| Tarazona-Santabalbina 2016 [20] | The CHS criteria and they used the Edmonton Frail Scale | Mean CHS frailty criteria intervention group 3.6 (SD 0.8) and control 3.8 (SD 0.6). The mean Edmonton frail score was 8.6 (SD 2.4) for the intervention group and 8.5 (SD 1.9) for the control group. | The frailty score significantly improved in the intervention group (p<0.001), 31.4% had a reversal of frailty and none in the control group. Similarly, the Edmonton Frail scale also significantly improved (mean score after intervention group 7.7 and control 9.3). The attendance of 50% of sessions was associated with OR of 4.4 for frailty reversal. | ADLs, IADLs, Cognitive function, social function, anthropometric measures and biological markers of aging | There was a significant improvement in ADL (Barthel index) (post intervention mean score 91.6 and control 82.0). The Lawton IADL scale also showed significant improvements (post intervention mean score intervention group 6.9 and control 5.7). So the intervention group stayed the same while the control group declined. Same findings for Tinetti test, Tinetti gait. The MMSE in the intervention group improved significantly from 26.5 to 28.9 and for the control it declined from 27.3 to 25.9. The GDS improved in intervention (2.9 to 2.3) and declined in control (2.4 to 3.2) and eq-5d improved in intervention (7.4 to 8.2) and stable in control (7.7 to 7.6). The number of visits to primary care was reduced in the intervention group (1.3 vs 2.4). For the anthropometric variables there was only a significant reduction in fat mass in frail individuals. |
| Mitoku 2014[25] | Frailty=decreased ability to perform basic ADLs and progression of frailty=a change from one level of care to another providing more assistance or death. | unclear, care level | The results were NS. | not applicable | The mortality risk of participants who had undergone home modifications was HR 0.52 (0.3-0.9) at 2 years, HR 0.57 (0.2-0.9) at 3 years and 0.65 (0.6-0.9) at the mean follow-up of 4.7 years. When stratified analyses were done the HRs are lower for women than for men, all significant. |
| Yamada 2012[24] | Frailty was defined as needing help to maintain or improve daily functions. | control group pre score 7.3 and intervention group 7.4 | The total score for exercise group after intervention was 7.1 SD 4.0 and control 8.0 SD 4.8 p<0.001. During the year, 8% of intervention and 18% in the control group were newly certified for LTCI. The RR was 2.16. the RR for change in frailty score for change in frailty score was 2.29 for motor abilities, 5.32 for nutrition and 1.77 for forgetfulness (1=improvement). | LTCI and medical costs | Participants in the intervention group spent sig lower care costs than control (1126 vs 4430)and medical costs (2458 vs. 3458) |

PPT= Physical Performance Test; IADL= Instrumental activities of Daily Living; ADL is Activity of Daily Living; VO2 max =maximum volume of Oxygen Consumption; IG=Intervention Group; CG=Control Group;FM= Frailty marker; CCSHA\_CFS-TV=Chinese Canadian Study of Health and Aging Clinical Frailty Scale Telephone Version; CHS= Cardiovascular Health Study Phenotypic Classification of Frailty; EN= Exercise and Nutrition;PST=Problem Solving Therapy; FUP= Follow up period; POMA= Performance Oriented Mobility Assessment; CES-D= Center for Epidemiological Studies Depression scale; BI=Barthel index; MTUG=Modified Timed up and Go; EX+MFGM= Exercise and Milk Fat Globule Membrane; : Ex=Exercise; SF-36=Short form -36 items; NNT=Number Needed to treat; NS= Not Significant;*P=* P value; CI=Confidence Interval; LTCI=Long Term Care Insurance; HR=Hazard Ratio.

**Table F Overview of international policies**

| **Country/ Territory; year** | **Population** | **Intervention** | **Outcomes achieved** |
| --- | --- | --- | --- |
| Europe; 2014-2019[15] | Innovative Medicine Initiative (IMI): SPRINTT Project Sarcopenia and physical frailty in older people: multi‐component treatment strategies | The SPRINTT project brings together major pharmaceutical companies, leading universities and hospitals, and small and medium-sized enterprises with the overall goal of improving frailty care and prevention in Europe.  At the core of SPRINTT project is a large clinical trial to assess treatment options designed to prevent the frail from becoming disabled and losing their mobility. The trial, which will involve around 1 500 patients from across Europe, will randomly allocate participants to one of two groups. The first group will receive a multi-component intervention including physical activity and nutritional advice and supplements as well as innovative technologies. Among other things, these innovative technologies will support efforts to coach participants on physical activity and diet, and help to monitor participants’ health and frailty (for example by logging falls or near-falls). The other group will take part in a general health education program. All participants will be followed up for two years. | Participants’ recruitment for the RCT is being performed. |
| Europe; 2004 [16] | Survey of Health, Ageing and Retirement Frailty instrument (SHARE-FI) to identify frailty in Primary Care | The CHS criteria for the definition of frailty are not readily applicable in Primary Care, where health professionals need tools to identify patients who require priority access to more specialized resources. The Frailty Instrument of the Survey of Health, Ageing and Retirement in Europe (SHARE-FI) aims to help improve the definition of frailty in the Primary Care context.  In the wave 1 of SHARE (2004), the Spanish sample was composed of 2,212 individuals, all living in the community (mean age: 65.6 years). For each sex, a latent class analysis was used to summarize the five (adapted) frailty criteria into three incremental frailty classes. The association of the frailty classes against a bio psychosocial range of wave 1 variables was tested; the predictive validity of the frailty classes was tested using mortality data from the second wave of SHARE (2006-2007), which were available for 846 women and 660 men. | The frailty classes had the expected cross-sectional associations. The age-adjusted Odds ratio for mortality (with 95% confidence interval) associated with the frail class was 3.2 (1.0-10.2) for women and 8.3 (3.1-22.1) for men.  SHARE-FI is a valid and freely accessible instrument, which is intended to facilitate the adoption of the frailty paradigm in Primary Care. |
| Europe; European Commission; 2015 [17-19] | Key initiatives; Active and healthy ageing; Action group A3: prevention of functional decline and frailty | Objective 1: Manage frailty and functional decline through targeted intervention in physical fitness, nutrition status, cognitive function, chronic conditions and diseases and social or psychological wellbeing of older people. Objective 2: Promote systematic-routine screening for pre-frailty stages in at risk patients and older people lifestyle. Objective 3: Create integrated pathways of care, while encouraging a systematic and integrated approach to implementing strategies for the secondary and tertiary prevention of frailty to reduce the associated physical, functional and cognitive disability | Several reports have been generated. |

**Table G Overview of intervention studies in progress**

| **Study Investigator** | **Clinical Trial Registration** | **Country** | **Study population and frailty measure used** | **Intervention** | **How far along is the study** |
| --- | --- | --- | --- | --- | --- |
| S. Shinka | NCT02305433 | Japan | Aged ≥65 in certain region in Japan with a frailty score of ≥2 | Exercise, nutrition, and psychological intervention for 3 months compared to control | Recruited completed |
| N. Kerse | ACTRN 12614000827639 | New Zealand | Non-Maori aged ≥75 and Maori aged ≥60 using the CHS/Fried frailty score | Senior Chef (nutrition) programme, Steady As You Go Programme (SAYGO, physical activity), both or control | Pending ethics approval |
| C. van Heijst | NTR2288 | The Netherlands | Aged ≥60 with a high frailty index, multimorbidity, with polypharmacy, with a care gap in GP for over 3 years | *Group A*: detailed assessment, report given to GP, who determines care  *Group B*: detailed assessment, geriatric nurse will do home visits with more assessments and tailored care plan in collaboration with GP |  |
| N.Fairhall | ACTRN12613000043730 | Australia | Pre-frailty Intervention Trial same design as the completed Cameron trial but now with pre-frail community dwelling persons (1-2 CHS/Fried frailty markers) | The Intervention group received a multifactorial intervention addressing their frailty characteristics assessed at baseline. Case management and weekly case conferences were carried out | Data collection completed |
| M.Cutchins | NCT00985283 | USA | Aged ≥75 years with Vulnerable Elder Survey score >2, not receiving home care services | Preventative home visit compared to control | Recruitment completed |
| K.Kharicha | ISRCTN11986672 | UK | Aged ≥65 scoring pre-frail and cumulative frailty index and registered with a General practice | Home visits to promote health compared to control | Has yet to obtain ethics approval |