Results summary for HRA/REC report – MET-PREVENT

Two hundred and sixty-eight people expressed interest in the study and received a telephone prescreening call. Of these, 112 people were potentially eligible and had a screening visit; 72 participants were randomised. The average age of participants was 80 years, and 42/72 (58%) were women. All had muscle weakness (sarcopenia) and all had some degree of frailty.

Almost all participants (70 out of 72, 97%) completed the 4-month trial visit. More participants stopped taking metformin (14/36, 40%) than stopped taking the placebo tablets (5/36, 14%). At 4 months, there was no difference in walking speed between those taking metformin (0.57 metres per second) and those taking the placebo tablets (0.58 metres per second). Metformin also did not improve measures of muscle size, ability to stand up and sit down from a chair five times, quality of life or activities of daily living. More people taking metformin reported side effects or other illnesses than those taking placebo. More people taking metformin were admitted to hospital (12/36, 33%) than those taking the placebo tablets (3/36, 8%)

Our results show that the MET-PREVENT trial design was successful in recruiting and retaining older people with sarcopenia and frailty – who have historically found it difficult to take part in clinical trials. In this group of older people, metformin did not improve physical function or quality of life. Metformin caused frequent side effects that led to participants having to stop the medication. Additional work continues using stored blood and stool samples to better understand the effects of metformin on muscle function and health in older people living with sarcopenia and frailty.