Appendix 1 – Methodology

Study population
The Hertfordshire Cohort Study has been described previously. In brief, from 1911 to 1948, midwives recorded information on infants born in the county of Hertfordshire, United Kingdom. The 1911-30 birth records have been used in a series of studies linking early growth to health in later life. In 1998, a younger cohort (born 1931-39) was recruited to participate in studies examining the interactions between early life, diet, adult lifestyle and genetic factors as determinants of adult disease. 3822 men and 3284 women born between 1931-1939 in Hertfordshire and still living there were traced through the National Health Service central registry. Permission to contact 3126 (82%) men and 2973 (91%) women was obtained from their General Practitioners.

Between 1998 and 2004, 1684 (54%) men and 1541 (52%) women aged 59-73 years took part in a nurse administered home interview. Medical history included: self-reported walking speed (six categories: unable to walk, very slow, stroll at an easy pace, normal speed, fairly brisk and fast) as a marker of physical activity; previous diagnosis of high blood pressure, stroke/transient ischaemic attack (TIA), or diabetes (out of pregnancy) by a healthcare professional; typical angina (Rose chest pain questionnaire); history of coronary artery bypass graft or angioplasty; and details of all currently used over the counter or prescription medications, coded to the British National Formulary.

1579 (94%) men and 1418 (92%) women subsequently attended a clinic for investigations. Height was measured to the nearest 0.1cm using a Harpenden pocket stadiometer (Chasmors Ltd, London, UK). Grip strength was measured three times on each side using a
Jamar handgrip dynamometer for 1,572 (99.6%) of the men and 1,415 (99.8%) of the women. Participants not known to have diabetes completed a 2 hour fasted oral glucose tolerance test and diabetes mellitus was classified according to WHO criteria. Resting blood pressure was recorded as the mean of three measurements on a Dinamap Model 8101 (GE Medical Systems, Slough, UK). An electrocardiogram (ECG) was performed and graded to the Minnesota protocol. Intra- and inter-observer studies were carried out during the fieldwork. Ischaemic heart disease (IHD) was defined by the presence of major-Q waves on the ECG or Rose questionnaire typical angina or history of coronary artery bypass graft or angioplasty. High blood pressure was defined by measured systolic pressure ≥160mmHg or diastolic pressure ≥100mmHg or by the presence of antihypertensive medication in the drug history. The study had ethical approval from the Hertfordshire and Bedfordshire Local Research Ethics Committee and all participants gave written informed consent.