Supplementary file 1. Study Population and Data Collection

The data from the Korean National Health Insurance Service-Health Screening Cohort was used. The Korean National Health Insurance Service (NHIS) chooses about 10% of random samples (n=about 515,000) directly from all people who had a health check-up from 2002 through 2003 year (n=about 5,150,000). The age and sex specific distributions of the cohort population is described in online. All of ≥40 years old Koreans and their families are requested to have a biannual health check without cost. Because all Korean citizens are registered with a 13-digit resident registration number for lifelong, the thorough population statistics can be calculated in this study. All Koreans have to register in the NHIS. The 13-digit resident registration number has to be used in all Korean hospitals and clinics. Thus, the medical records was prevented to be overlapped, even in case of a patient moves from one place to another. In addition, the Korean Health Insurance Review and Assessment (HIRA) system managed all medical treatments in Korea. The causes and date of death diagnosed by medical doctors on the death certificate are legally announced to administrative entity. This NHIS included health insurance claim codes (procedures and prescriptions), diagnostic codes using the International Classification of Disease-10 (ICD-10), death records, socioeconomic data and health check-up data (body mass index [BMI], drinking, smoking habit, blood pressure, urinalysis, hemoglobin, fasting glucose, lipid parameters, creatinine, and liver enzymes) for each participant over the period from 2002 to 2013.