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# ASSOCIATIONS BETWEEN RESULTS OF ROUTINE OCCUPATIONAL HEALTH EXAMINATIONS AND MORTALITY DURING THE FOLLOWING 40 YEARS

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**Objectives** Males in Norway born in 1905–1914 were recruited to a randomised clinical trial by occupational health physicians in 1964. A follow-up through 2005 offered the opportunity to estimate to which degree results of routine clinical measurements in the occupational health service in the 1960s predict later survival and cause-specific mortality.

**Methods** The cohort consisted of employees from 280 companies. Baseline information included occupational health service examinations: blood pressure, BMI, smoking, and a long-term increased erythrocyte sedimentation rate (ESR). The 15 934 residents as of January 1st 1967 were followed up in the Cause of Death Register through 2005. Associations were estimated in linear regression and Cox regression.

**Results** Nearly all participants (N=15 535; 97.5%) died during follow-up. All established risk factors showed associations as expected with total mortality, cardiovascular mortality, cancer mortality, and respiratory system mortality. Also increased ESR was associated with HR estimates about 1.5 for these causes of death. Median survival time was 6 years shorter for smokers with systolic blood pressure 140–159 compared to non-smokers with blood pressure below 140 mm. Analyses restricted to observation in 10-year bands showed that HR estimates for blood pressure and ESR decreased slowly over time whereas no clear secular trend was found for smoking and obesity.

**Conclusions** Results from routine health examinations in occupational health services predicted survival and cause-specific mortality for several decades. Associations with established risk factors were weaker than in most studies, which could be due to the long follow-up and random measurement error.