Hong Kong Chinese population experienced abrupt macro-environmental change generated by mass migration in the late 1940s from pre-industrial China to economically developing Hong Kong. We took advantage of this natural experiment to test whether a “step-change” in living conditions in early life had sex-specific cohort effects on IHD mortality.

**Methods** We used sex-specific age-period-cohort models to identify cohort effects in adult IHD mortality from 1976 to 2005 overall and by migrant status. To check for specificity, we examined mortality from lung cancer and renal diseases.

**Results** Birth cohort effects varied with sex, with a marked upturn in IHD mortality for the first generation of men born into the comparatively developed environment of Hong Kong. The upturn occurred first in non-migrants and later in migrants. There were no such upturns in women or such sex-specific changes for lung cancer or renal diseases.

**Conclusion** Men’s vulnerability to premature IHD may be actuated in early life, perhaps mediated by inter-generationally and nutritionally driven levels of pubertal sex-steroids. This has considerable public health implications for the large population of young males in countries undergoing rapid economic transition.

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**P2-275** **CHOLESTEROL AND THE RISK OF GRADE-SPECIFIC PROSTATE CANCER INCIDENCE: EVIDENCE FROM A LARGE PROSPECTIVE COHORT WITH 37 YEARS FOLLOW-UP**

doi:10.1136/jech.2011.142976k.8

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**Introduction** Associations between cholesterol and prostate cancer have been inconsistent and limited to a small number of studies with significant methodological limitations.

**Methods** We conducted a prospective cohort study of 12,938 men who were enrolled in two of the Midspan studies (took place in Scotland) between 1970 and 1976 with follow-up to 31 December 2007. We used Cox-Proportional Hazards Models to evaluate the association between baseline plasma cholesterol and Gleason grade-specific prostate cancer incidence.

**Results** 676 men developed prostate cancer in up to 37 years follow-up. We found no association between cholesterol level and overall risk of prostate cancer incidence. However, cholesterol was positively associated with hazard of high grade (Gleason score ≥8) prostate cancer incidence (p<0.05). The association was greatest among men in the 4th highest quintile for cholesterol, 6.1–<6.69 mmol/L (HR 2.30, 95% CI 1.27 to 4.10) compared with the baseline of <5.05 mmol/L. Exclusion of incident cancers up to 5 years after baseline cholesterol assay did not significantly affect the observed associations.

**Conclusions** Men with higher cholesterol are at greater risk of developing high-grade prostate cancer but no overall association between cholesterol and prostate cancer risk was found. Further research is needed to determine the underlying biological mechanisms for the association.