

## MYOCARDIAL INFARCTION AND PSYCHOSOCIAL WORK ENVIRONMENT

The risk of coronary heart disease varies by socioeconomic position, being greatest in the most socially and economically disadvantaged members of the community. Understanding the factors that explain this variation is a critical prelude to prevention. In this issue, Andersen *et al* (p. 886) investigate whether differential patterns of exposure and susceptibility to the psychosocial work environment are causal intermediates in the pathway from social position to myocardial infarction.

Data from three Danish prospective studies involving 16 214 20–75 year olds were used. Incident myocardial infarctions over follow up were related to psychosocial work exposures using a job exposure matrix. During follow up over 700 subjects suffered an infarct with a clear gradient in hazard ratio by socioeconomic position. Risk of myocardial infarction showed strong and graded associations with decision authority and skill discretion when considered as separate factors, but only with skill discretion when both factors and several other cardiovascular risks were analysed together. Risk estimates were somewhat lower in the adjusted analyses. No evidence was found of synergy. The authors suggest that the effects of social position on risk of coronary heart disease are partly mediated by skill discretion, which represents a possible future target for prevention.

## HOSPITAL ADMISSIONS IN HEAT WAVES

During the heat wave of 2003 several European countries recorded a significant increase in death rates. Concerns were expressed about how health services will cope in the event that future climate change leads to more frequent and more severe hot spells. One aspect, so far little studied, is the effect heat waves have on hospital admissions and emergency callouts. In this issue Kovats

*et al* (p. 893) report a time series analysis for Greater London during the period 1994–2000, modelling the effects of heat as the average daily mean temperature over the index and previous two days. Adjustment was made for various factors, including calendar and long term trend in hospital admissions, flu outbreaks, relative humidity, and air pollution. There was no clear evidence of a rise in emergency hospital admissions to parallel the observed increase in daily mortality. It seems possible that heat related deaths occur in vulnerable members of the community before they come to medical attention. Such a finding, if true, could be material in planning the public health response to climate change.

## INTERVENING TO PREVENT EARLY RETIREMENT

As the populations of industrialised countries age, the impetus to prevent ill-health early retirement grows. Societal, organisational, and individual level interventions to extend working age have all been considered, but evidence on what works is indirect at present. Several factors predict early retirement or failure to resume work activity after prolonged illness, but little controlled evidence exists on interventions to prevent these outcomes. De Boer *et al* (p. 924) have taken a first step along this path by evaluating an occupational health intervention programme in older workers judged at risk of early retirement. The subjects, who were all over 50 years of age, were recruited from an international electronics equipment maker and assigned at random to an intervention or control group. The intervention, which lasted six months, comprised a pragmatic problem solving assessment and action plan executed by an occupational physician. Assessments were also made at baseline and follow up of work capacity, burnout, quality of life, job position, and days of sick leave.

At the two year follow up early retirement was less common in the intervention group (11% versus 28%) and fewer days of sickness absence had been taken (82 versus 108 days on average). Better measures of work ability, burnout, and life quality were also recorded in the intervention group at the six month stage, although these benefits were not sustained at two years. On balance, the findings suggest that a well planned intervention programme may have useful scope to prevent ill-health early retirement.

## MALE FECUNDITY AND WORK WITH LEAD

In women, exposure to inorganic lead has been linked with several adverse reproductive outcomes, including subfertility, abortion, stillbirth, and neonatal death. But evidence concerning lead's effects on male fertility is incomplete. Some research suggests that time to pregnancy (TTP) is prolonged among partners of men who work with lead, but dose-response data are limited and the threshold of blood lead at which the effect manifests is unclear. Shiau *et al* (p. 915) have now performed a TTP study in male lead battery workers involving personal interviews about 280 pregnancies. Fecundity ratios (FR) were calculated using a modified Cox model and related to concurrent blood lead levels in the men studied. The probability of conception fell with rising lead levels in a dose dependent fashion. At a blood lead level of  $\geq 40$   $\mu\text{g}/\text{dl}$  the FR was reduced 60% relative to unexposed controls; and effects were also suggested at lower levels—below those taken as an occupational standard in some countries.

## ELSEWHERE IN THE JOURNAL

This month's journal also features a three-country study suggesting that particulate air pollution increases the permeability of the lung epithelium in certain patient groups (p. 908); a cross-sectional survey of myocardial function in workers exposed to cobalt (p. 877); and two studies on herbicides, one aimed at improving exposure assessment (to triazine herbicides) using a regulatory pesticide usage database (p. 945), and another investigating whether triallite is a human neurotoxin (p. 936).