

# This week in BMJ

All communications to:  
The Editor, *BMJ*  
BMA House,  
Tavistock Square  
London WC1H 9JR  
Fax: 071 383 6418  
Phone: 071 387 4499

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## Hepatitis C virus reduces severity of hepatitis B coinfection

Simultaneous infection with hepatitis B and C viruses seems to alter the expression of the two viruses in animals but few data are available on humans. On p 1095 Mimms *et al* reanalysed serum collected for the transfusion transmitted viruses study in the 1970s to determine which patients had been coinfecting with hepatitis B and C viruses. The amount of hepatitis B surface antigen and the duration of detection were reduced in coinfecting patients, suggesting that hepatitis C virus inhibited replication of hepatitis B virus. The chronicity of hepatitis C virus infection was not affected.

## Premature mortality increases linearly with increasing deprivation

Geographical variations in mortality are associated with area deprivation based on data from the census. Eames *et al* (p 1097) explored the relation between area deprivation and premature mortality (under 65 years) from all causes, coronary heart disease, and smoking related conditions in 8464 electoral wards in England. Their findings show a stepwise increasing relationship between deprivation and mortality with no apparent threshold, but the slope of the relationship varied between regions. Regional variations in mortality existed at all degrees of deprivation. The authors conclude that current government targets for reducing mortality from coronary heart disease mortality by 40% could be achieved if the mortality in the poorest areas fell to the rates seen in the most affluent areas.

## Men with emotional support are protected from effects of stress

Psychosocial factors influence mortality. Poor social network, low socioeconomic status, and bereavement have all been associated with increased death rates in prospective studies. The concept of emotional stress enters either implicitly or explicitly into most of this research. In a Swedish study on middle aged men Rosengren *et al* (p 1102) found that men who had experienced many adverse life events had higher mortality, especially those with poor emotional support. The authors conclude that emotional support may attenuate the impact of adverse life events.

## Bone mineral density and postural instability predict atraumatic fracture

Bone mineral density is a recognised predictor of fracture in elderly people. It alone, however, cannot accurately discriminate between people who will have fractures and those who won't. On p 1111 Nguyen *et al* report a prospective population based study of some 1800 elderly men and women in Australia. They found that the combination of bone density and measures of postural stability (lower limb muscle strength and

body sway) were highly sensitive and specific in discriminating between subjects who would have a symptomatic atraumatic fracture versus those who would not in a three year period. These measures were synergistic in their ability to predict fractures. A subject who was in the highest risk quartile for all three measures had a risk of fracture of more than six times that of those who were not. These parameters should be valuable for assessing risk of fracture in other population groups and provide a rational basis for designing interventions to prevent fracture in the elderly.

## Vitamin A deficiency responds to $\beta$ carotene supplementation

Vitamin A deficiency, resulting in blindness and mortality, is a major problem among children in developing countries. To assess whether supplementation by  $\beta$  carotene was equivalent to retinyl palmitate, which is found in animal products, Carlier *et al* conducted a randomised blind equivalence trial in a rural area in Senegal on 510 children defined by abnormal eye cytology as vitamin A deficient (p 1106). Reversion to normal eye cytology was similar in both treatment groups (51% and 50%).  $\beta$  Carotene could thus be used as a substitute for retinyl palmitate.

## Marketing of new drugs may lead to inappropriate use

Pharmaceutical companies naturally market new products aggressively to ensure maximum sales. McGavock *et al* (p 1118) monitored prescribing of three new classes of drugs over four years. Prescribing of angiotensin converting enzyme inhibitors,  $H_2$  receptor inhibitors, and new broad spectrum antibiotics increased greatly over the four years 1988-91, and this seems unlikely to be solely due to increases in the number of patients with specific indications for these drugs. The authors suggest that the profession needs to introduce some mechanism to ensure that legitimate promotion of new drugs does not lead to inappropriate and wasteful use.

## Capitation funding: age mostly accounts for money flowing from city to seaside

Much of the debate on capitation funding has been to do with adjustments for mortality, but on p 1121 in his reworking of the national formula at regional and district level Raftery shows that population projections and age adjustments are consistently more important than any other weighting factor. In particular, the weighting for age, under which half of health authority funding relates to the over 65s and 20% to the over 85s, leads to resources flowing from inner city districts to seaside resorts. The magnitude of such resource changes exceeds any other changes likely under the internal market. The author suggests that the uncertainty surrounding each element in the capitation formula requires careful scrutiny.