with negative findings from—for example—an analysis of secular trends and geographical patterns of beef consumption within the United States[3] and from case-control studies. A positive association was found, however, between consumption of meat and cancer of the large intestine in Hawaiian Japanese.[4] Possibly that positive result may have been obtained while the findings in similar studies have been negative because the diet of the Hawaiian Japanese population is appreciably heterogeneous.[2]

The epidemiological evidence of an association between fat consumption and large intestinal cancer is similarly equivocal. International comparisons show a correlation between fat intake and cancer rates[5]; but analyses within countries and case-control studies generally do not confirm the association.[6] Other data, however, suggest that meat and fat may play a part in carcinogenesis. Differences can be shown in the faecal flora in populations with high and low rates of cancer of the large intestine.[7] Anaerobic bacteria such as *Bacteroides* are more abundant in areas of high incidence. There are several possible mechanisms through which bacterial activity on substances derived from meat or fat could be carcinogenic. For example, a high intake of dietary fat might increase the colonic concentration of bile acids, whose subsequent metabolism by bacterial flora might produce carcinogens.[8]

The close geographical and secular association between bowel cancers and other non-infective diseases of the bowel such as appendicitis and diverticulosis has suggested a link with a refined carbohydrate diet, low in fibre.[9] A recent comparison between a rural area of Finland with low rates of colorectal cancer and Copenhagen, where the rates are high, showed that the intake of dietary fibre was higher in the country area.[2] A high intake of unabsorbable fibre could protect against bowel cancer in several ways: bulky stools might dilute carcinogens; the reduced bowel transit times might lessen the contact between carcinogens and the mucosa; and fibre might alter the faecal flora.

Separate from the interrelated hypotheses on meat, fat, and fibre are observations on alcohol intake and bowel cancer. A survey in the United States showed a striking correlation between beer consumption in 47 States and mortality from colorectal carcinoma[10] that was greater for rectal than colonic cancer (though the distinction between these two sites in epidemiological studies may be of doubtful value since so many of the lesions occur around the junction of the sigmoid colon and rectum). The evidence for an association between beer and colorectal cancer is inconclusive, but a recent study of mortality among blue-collar workers in a Dublin brewery has provided further support.[11] Over 20 years there were 32 deaths from cancer of the rectum compared with an expected 18·2 as estimated from the rates among all inhabitants of Dublin. There was also evidence of an association for carcinoma of the colon though the relative risk was lower: 32 deaths observed compared with 27·3 expected. How beer drinking could lead to large bowel carcinoma is not clear.

At present, therefore, the evidence against any particular dietary factor in causing bowel cancer is inconclusive. As is so often the case, further epidemiological surveys are needed.

[1] Buell D, Dunn JE. Cancer mortality among Japanese Issei and Nisei of California. *Cancer* 1965;**18**:656-64.
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[4] Haenszel W, Berg JW, Segi M, Kurihara M, Locke FB. Large-bowel cancer in Hawaiian Japanese. *J Natl Cancer Inst* 1973;**51**:1765-79.
[5] Drasar BS, Irving D. Environmental factors and cancer of the colon and breast. *Br J Cancer* 1973;**27**:167-72.
[6] Langman MJS. *The epidemiology of chronic digestive disease.* London: Edward Arnold, 1979.
[7] International Agency for Research on Cancer, Intestinal Microecology Group. Dietary fibre, transit-time, faecal bacteria, steroids and colon cancer in two Scandinavian populations. *Lancet* 1977;ii:207-11.
[8] Aries V, Crowther JS, Drasar BS, Hill MJ, Williams REO. Bacteria and the aetiology of cancer of the large bowel. *Gut* 1969;**10**:334-5.
[9] Burkitt DP. Epidemiology of cancer of the colon and rectum. *Cancer* 1971;**28**:3-13.
[10] Enstrom JE. Colorectal cancer and beer drinking. *Br J Cancer* 1977; **35**:674-83.
[11] Dean G, MacLennan R, McLoughlin H, Shelley E. Causes of death of blue-collar workers at a Dublin brewery, 1954-73. *Br J Cancer* 1979; 40:581-9.

Welcome award: belated justice

Doctors in the NHS will welcome their 1980 pay award,[1] while seeing it as belated justice. But at a time when the Government is trying to keep public sector pay rises within prescribed cash limits it must have swallowed hard before approving the Review Body's recommendations that give the profession average rises exceeding 30% (p 1327), backdated to 1 April 1980. The size of the increases, which range from over £1200 for house officers to nearly £4000 for GPs, and over £4000 for senior consultants, is in part a consequence of the restraints imposed by previous Government pay policies, which, according to the BMA, have cost the medical profession £340 million —not allowing for inflation—in irretrievably lost income since 1975. This is a substantial loss which other groups should recognise when contrasting their 1980 pay settlements with those of doctors. For the first time in five years doctors' pay has caught up with others in comparable walks of life and the Review Body's 1978 commitment to restore this parity was seen "as essential to the maintenance of an effective and efficient NHS for the benefit of the community as a whole."[2]

The public reception accorded to this award—10·7% of it is the final part of the three-stage 30% "catching-up" recommendations made in 1978—should not make doctors feel guilty. But criticisms from Whitehall and Fleet Street about the alleged inflationary effect of independent pay reviews[3] will cause some uneasiness in the profession, who may fear loss of the Review Body. Even the juniors, who for the past two years have eschewed the Review Body system, may now recognise its worth. The medical and dental professions have the oldest independent review machinery and despite occasional malfunctions and two near breakdowns it has served the professions reasonably well and should be preserved. Like all machinery, however, it requires regular overhaul and the clash with the professions over how far it can legitimately go in criticising agreements negotiated with the DHSS (p 1330) and the extent to which it operates a pool system of payment must be quickly resolved. On the latter point, not all doctors will be convinced by the Review Body's protestations (p 1330) that it operates no pool. In this *Tenth Report*, for example, the incremental pattern of the medical assistants' scales is "improved" at the expense of a downward adjustment in their extra-duty payments, surely an illustration of the pool principle. While the experienced people who serve on the Review Body are bound to form definite views about any agreements

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on terms and conditions of service they are invited to price it is arguable, to say the least, whether their remit includes using financial means to modify any proposals of which they disapprove—as, in effect, happened with the consultant contract proposals. Such proposals have customarily been hammered out after months of negotiations between the DHSS and representatives well versed in the intricacies of the craft concerned.

The profession believes that the Review Body should assess a realistic "rate for the job" which recognises the long training, skill, and responsibilities of all those in the grades in question; and it should price separately and additionally other payments or alterations in the structure over and above the basic rates which have been negotiated between the profession and the Health Departments. The Review Body, however, sees itself as being concerned with the remuneration of the profession as a whole and with the overall structure, arguing that "wherever a significant change for one group within the structure is envisaged, we need to be supplied with adequate information about its effects on work load and duration, and to be satisfied that it is consistent with the wider needs of the structure as a whole, if we are to carry out our proper function." This is a crucial difference of opinion and while admittedly a clear boundary between policies and pricing is hard to define, all parties to the Review Body exercise must speak frankly and act responsibly if the system is to work and keep the confidence of doctors; the BMA has already approached the Government about reviewing the Review Body's remit.

Since the mid-1960s the profession's pay—and, for GPs, expenses—structure has become increasingly complicated, which may explain in part the almost routine delays that now occur in publishing the annual reports. The Review Body sympathises that the new levels of pay "are several months out of date by the time their impact is felt 'in the pocket,'" and notes that there seems to be little scope for streamlining the administrative procedures for implementation. GPs already receive payments "on account" while family practitioner committees work out the detailed increases. Perhaps a similar mechanism might be introduced for hospital and community medicine doctors. (Which was also extended to NHS staff awaiting the outcome of the Clegg comparability exercise.[4]) On the question of making the mid-point of the "pay year" the target date for estimating incomes instead of 1 April the Review Body is firm, repeating its 1971 view that to anticipate future inflation must to an extent make inflation self-generating. The BMA will no doubt be submitting further evidence for a change to a mid-year target for the 1981 review.

The BMA puts great effort and much skill into preparing and delivering its written and oral evidence and these labours have greatly benefited doctors. Headquarters has sent all the regional craft committees detailed letters on what the report means for the respective crafts. GPs will be pleased that more emphasis has been put on the rewards for out-of-hours work, with the night visit fee increased by 50%, though they will be disappointed that the Review Body members remain unconvinced by the profession's arguments about increased work load in general practice. In contrast to the *Ninth Report* this year's report increases practice expenses substantially (p 1329), in part to take account of the ever-recurring problem of previous underpayments. Consultants will welcome the overdue rise in the amount of distinction and meritorious service awards—A awards go up by nearly 50% and B awards by about 47%—and the proportionately larger increase in the number of C awards (p 1329). They failed, however, to persuade the Review Body to rectify the contraction in the consultant scale by applying a greater increase at the top of the scale. Community physicians will welcome their continued link with the consultant scale and many clinical medical officers will benefit from a shortening of the incremental scale from 10 points to seven; but trainees will be disappointed at the rejection of the profession's case for a 30% supplement to their basic salary for out-of-hours duties.

The Review Body has also pointed out that it "must have regard to the 'total remuneration package' available to doctors and dentists and to others elsewhere" and it sees pension benefits as the "single most important non-cash element." The report observes that "the value of the pension arrangements for the medical and dental professions, particularly under conditions of uncertainty and at times of high price inflation, offset the general level of pension benefits and fringe benefits taken together at comparable levels in private employment—where even ex gratia adjustments to pensions to match the full increase in the cost of living are the exception." The new chairman, Sir Robert Clark, and his colleagues promise a more detailed study of the value of pensions and the BMA is sure to pay particular attention to this aspect of its 1981 evidence.

The benefits from the *Tenth Report* are considerable and substantially outweigh any disappointments, but what of the cost to the NHS? In principle the cost is justified, for, as the Review Body itself has acknowledged, good morale among doctors is essential for the wellbeing of the NHS, and presumably the Government, having accepted the award, agrees. In practical terms the Review Body estimates the annual cost of the third stage of the catching-up award as £106m, of the 1980 changes in the consultant contract as at least £7m, and of the 18·7% cost-of-living award as £206m. Stage three has already been funded by the Government, new money has been promised for the consultants' £7 million, and there should be no problem for GPs' increases as FPCs are not constrained by cash limits. For the rest of the profession in the NHS 14% of the cost-of-living rise has been built into the 1980-1 NHS budget, which leaves over 4% to be found. According to the DHSS this is no great obstacle, for in a press statement accompanying publication of the report it stated that "the cash limit is expected to be adequate, especially when allowance is made for savings through greater efficiency in the NHS." Doctors will not wish to quarrel with such a confident assertion and will be relieved that their 1980 award is not at the expense of patients' services.

[1] Review Body on Doctors' and Dentists' Remuneration. *Tenth Report*, Cmnd 7903. London: HMSO, 1980.
[2] Review Body on Doctors' and Dentists' Remuneration. *Eighth Report*, Cmnd 7176. London: HMSO, 1978.
[3] *The Times*, 20 May 1980, p 15.
[4] Anonymous. *Br Med J* 1980;**280**:880.

Delayed BMJs

We apologise to our readers for the continuing delays in arrival of the *BMJ* and for its greatly reduced size. These problems seem likely to continue: as yet the trade dispute in the printing industry remains unresolved.

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