

# BRITISH MEDICAL JOURNAL

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*Letters critical of a paper may be sent to the authors of the paper so that their reply may appear in the same issue. We may also forward letters that we decide not to publish to the authors of the paper on which they comment.*

*Letters should not exceed 400 words and should be typed double spaced and signed by all authors, who should include their main degree.*

## British blood cholesterol values and the American consensus

SIR,—Attention has recently been drawn to the NIH consensus development conference statement on lowering blood cholesterol values to prevent heart disease (11 May, p 1493). The full statement has now been published<sup>1</sup> with a supporting editorial. Few would object to the editorial advice to stay close to the ideal weight,<sup>2</sup> not to smoke, and to take reasonable exercise, though there might be some argument about what constitutes a "healthy heart diet." However, the detailed consensus statement includes specific recommendations about screening for blood cholesterol values and taking appropriate action. These need to be critically reviewed in a British context.

The consensus panel concluded that individuals with high risk blood cholesterol values (above the 90th centile) should be treated intensively by diet, and if response to diet was inadequate appropriate drugs should be added. Adults with moderate risk values (between 75th and 90th centiles) should be treated intensively by diet; only a small proportion would require drug treatment. In subjects of 40 years and over high risk is defined as  $>6.72$  mmol/l (259 mg/100 ml) and moderate risk as  $>6.21$  mmol/l (240 mg/100 ml).

What do these recommendations mean for the British population? There is good evidence that British men have higher blood cholesterol concentrations than American men, and comparison of the distributions in British and American men provides a disturbing view of the effect of applying American derived centiles to the British blood cholesterol concentrations.

The American data are derived from the Lipid Research Clinics programme<sup>3</sup> and include 8483 white men aged 40-59 years drawn from 10 centres during 1972-5. The 7735 British men aged 40-59 years were randomly selected from the age-sex registers of group general practices in 24 towns in England, Wales, and Scotland in 1978-80 and from the cohort of the British Regional Heart Study.<sup>4</sup> Patients attending the BUPA medical centre in London appear to have a similar distribution of blood cholesterol to that of the British men reported on here.<sup>5</sup>

Direct application of the American recommendations for high risk ( $>6.72$  mmol/l) and moderate risk ( $>6.21$  mmol/l) blood cholesterol values to the British middle aged male population would result in 31% being treated intensively by dietary means, with drugs being added if response to diet was inadequate. A further 18% of British middle aged men would be treated intensively by dietary means, with a proportion of these requiring drug treatment. Thus, 49% of the British male population aged 40-59 years would require intensive dietary management (table), with all the implications for skilled dietary advice and monitoring of blood cholesterol response. In addition, an undetermined proportion of these would require drug therapy and monitoring of response. The cost implications are staggering.

Included in the NIH consensus development conference statement is the recommendation that "all physicians should be encouraged to include, wherever possible, a blood cholesterol measurement on every adult patient when that patient is

first seen." In the British debate on the best policy to be adopted to identify people at most risk for ischaemic heart disease it has been suggested that "we should aim at identifying those above the eightieth percentile of the distribution of serum cholesterol concentrations . . . for that population

*Blood total cholesterol (mmol/l) in American and British men aged 40-59 years*

	Centiles						
	5	10	25	50	75	90	95
American*	4.02	4.31	4.81	5.38	6.01	6.65	7.08
British	4.7	5.0	5.5	6.2	6.9	7.6	8.0

\*The values for men aged 40-59, given here, differ slightly from those for all men aged over 40 given above.

Conversion: SI to traditional units—Cholesterol: 1 mmol/l = 38.6 mg/100 ml.

for which it is planned to give advice."<sup>6</sup> In the United States this policy identified 49% of those who died of coronary heart disease during five years' follow up, and the 90th percentile identified 30%.<sup>6</sup> In British middle aged men use of the 80th percentile would identify only 32% of those who would subsequently develop coronary heart disease (fatal and non-fatal) and use of the 90th percentile would identify only 18%.<sup>7</sup> It seems clear that in British middle aged men the concentration of blood cholesterol alone is not a very good predictor of major coronary heart disease in the next few years.