

## CORRESPONDENCE

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*Correspondents are urged to write briefly so that readers may be offered as wide a selection of letters as possible. So many are being received that the omission of some is inevitable. Letters must be signed personally by all their authors.*

**Hospital laboratory computing**

SIR,—The views expressed in your leading article (18 February, p 387) are both sensible and timely. It is indeed necessary that we should change the usual practice whereby each hospital laboratory installing a computer is faced with a considerable involvement of time and effort in programming before the computer actually starts working for the benefit of the laboratory. At one time it was widely held that this is unavoidable because the requirements of each hospital were thought to be so specific that there was little common ground. Experience has shown that this view is false and that there is in practice a large measure of agreement on the ways in which the computer should be used to best advantage.

Laboratory staff contemplating the purchase of a computer can now visit successful computer systems in daily use; in any case, a good modern system is programmed in a modular fashion and is "table-driven" so that minor recompilation is all that is required to adapt the programs for a new user. If the new user orders a computer of the same make the whole system will be working within a week or two of installation. Unfortunately, as Dr M D Buckley-Sharp's table indicates (4 March, p 577), this never happens. The purchasing authority faced with an expensive item in an unfamiliar field naturally takes the advice of the computer professionals, who respond by enthusiastically mounting an investigation into the relative merits of several different makes. They invite quotations from different manufacturers and set up a

competitive situation. Ultimately they make their choice, which is not the machine used to develop the system inspected and approved by the laboratory staff.

There is no doubt that these events end with the purchase of the latest model computer and may perhaps save a substantial sum of money. I have heard the figure of £10 000 mentioned in a total bill of £60 000. But at what cost? The programs must be more or less completely rewritten to fit the new machine and its filing system. There are several such projects in the NHS at this moment and, judging by their progress, at least a year's work by 2-4 programming staff is required to complete a typical conversion. Simple arithmetic is all that is needed to demonstrate what a bad bargain this makes. The final result is a one-off system with all its disadvantages. Computer maintenance for a year and a year's frustration for the laboratory staff are additional costs to be offset against the original capital saving.

The only sensible course of action for a laboratory purchasing a computer system is to treat it just like any other piece of expensive and complicated apparatus (and after all, it will probably cost less than a fast multichannel analyser). The laboratory staff should insist on seeing the computer at work doing the actual tasks that they want done, and when they have made their selection they should buy the system lock, stock, and barrel and install it. Modifications to tailor the programs to the new laboratory and to extend them as necessary should be done after the system is running,

not before, and if the operating system of the computer makes this impossible, then that is not the computer to buy.

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**Coronary heart disease and male sex hormones**

SIR,—Drs R F Heller and H S Jacobs (25 February, p 472) suggest that the loss of male sex hormones at around the age of 50 may be a protective factor for ischaemic heart disease (IHD) mortality in males because the rate of increase of the logarithm of mortality with age is lower after 50. Care is needed in interpreting semilogarithmic scales; the mortality rates involved range from 3 per 100 000 at age 25 to over 3000 at age 85+ (fig 1 of their article).

Increase with age on a semilogarithmic scale cannot continue to be linear; if the linear rate were to continue beyond 50 years in their figure every man would die of IHD by 75 years and every woman by 82 years. A change in rate for each sex is inevitable on a logarithmic scale and the fact that it occurs between 45 and 50 appears to have little bearing on the hypothesis they are putting forward.

The accompanying figure shows the leading causes of death in age- and sex-specific groups in England and Wales for 1973 as a percentage of total mortality. IHD is the leading cause of death for men in every age group after 40 years. The gap in percentage of total deaths between IHD and the next leading cause of death narrows with advancing age after 50 as the other leading causes alter their ranks.