Database could give children safer medicines

Sir —We agree with Maurer *et al.*, who in their Commentary[1] define databases as "science's neglected legacy". Many large, complex databases are available to today's scientists; information is stored to be accessed later and hypotheses can be tested using this well of knowledge.

However, the quality and effectiveness of databases can be uneven, and many areas remain starved of attention for a long time.

An example of these neglected areas in clinical medicine is the risk/benefit evaluation of medical treatment for children. Although we highlighted the need for a registry of randomized, controlled clinical trials in children long ago[2], so far no international databases on paediatric trials have been implemented.

This issue has recently come to the fore both in Europe and the United States, where children are being given unlicensed or unlabelled drugs because no appropriate trials have been carried out to meet the requirements of regulatory agencies[3].

It is crucial that any medicines given to children should be evaluated both for efficacy and for safety. Although randomized, controlled trials are the foundation of evidence-based medicine, they are often conducted in secret and stopped prematurely. In many cases, these trials do not end with publication of the information that has been gathered[4].

Children are at even greater risk than adults from inadequately tested drugs. This long-standing problem puts children in an underprivileged position within medicine. There is a clear need for new efforts to be made to have drugs properly investigated if they are going to be given to children. The development of an international database of paediatric trials is one way of opening up the process and avoiding these problems.

As Maurer *et al.* have valuably reminded us, society cannot get full value for its investment in science unless anyone who wants existing data can actually get hold of them. In this respect, recent developments in interactive health-communication technologies could make an online database of paediatric randomized, controlled trials easily accessible to scientists and clinicians. It would give them access to data on planned and ongoing trials, would avoid duplication of studies and would allow parents to obtain information on clinical studies in which they might give consent for their children to take part.

Such a database might thus also bring about a number of cultural and social benefits, including the potential to give people a more direct role in caring for their children.

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Showman barely blinked at a dose of nerve gas

Sir — Your News article on nerve-gas tests (*Nature* **404,** 428; 2000) and the accompanying photograph brought back to me vivid memories of one of the key participants, prominently plonking himself right in the middle of the front row, and quite unmistakable from the cut of his well-tailored double-breasted suit, the

suitably placed handkerchief, cufflinks, the lot. I refer of course to the sartorial splendour of the "showman of organic chemistry", Bernard C. Saunders (left, centre), who enlivened the organic chemistry degree course that I took at Cambridge during the 1950s.

Halfway through each beautifully delivered lecture, when perhaps even the attention of the most industrious student began to flag, his "And that reminds me…" signalled another of his stories.

One of these was a personal recollection of nerve-gas tests on himself. After leaving the test chamber he wrote notes on the experience, but it was rather dark so they turned on the lights — which didn't help much as the volunteers' pupils had contracted under the influence of the gas.

But this work had an even wider significance: a sort of beating chemical weapons into chemical ploughshares, because compounds such as diisopropylfluorophosphate (DFP) enabled the Sanger/Hartley/Milstein *et al.* school to use such compounds as suicide (mechanism based) inhibitors to isolate the active sites of enzymes such as the serine proteases.

Bernard really was a great facilitator. For example, on reading Frederick Sanger's 1988 review "Sequences, sequences, and sequences" I discovered that he had also provided the first sample of fluorodinitrobenzene (FDNB) to Sanger to test as an N-terminal reagent. It thus became known as the Sanger reagent, crucial for sequencing small peptides and a big step on the way to Sanger's first Nobel prize in 1958.

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Japan may seek embryo cells from overseas

Sir — According to Robert Triendl's News report (*Nature* **404,** 321; 2000), reimplantation of human clones will probably continue to be prohibited in Japan, whereas experimentation into establishing human embryonic stem (ES) cells may be allowed.

On 17 December 1999, the cloning subcommittee (chaired by Yoshio Okada) of the Council for Science and Technology's bioethics panel concluded that human cloning should be restricted by law. A law being drafted this year will primarily cover the prohibition of nuclear transplantation of human somatic cells. However, on 6 March, the same subcommittee indicated that research to establish human ES cells should be allowed, subject to guidelines being developed.

As a consequence, there is increasing expectation of immediate progress in research into establishing human ES cells. In some universities, study protocols for related experiments have already been submitted to the appropriate ethics committees.

However, progress in experimentation using human embryos cannot be guaranteed unless some significant problems are resolved, including regulation of proprietary rights of intellectual possession and profits to be derived from the establishment of such cells; ownership by those involved in the experiment and/or the donor of fertilized eggs; and problems related to the donation of fertilized eggs.

Concerning the last problem in particular, donation of fertilized eggs to outside facilities, even with the donor's consent, may be against the guidelines of the Japanese Gynecology and Obstetrics Society. In any event, the society does not allow the use of fertilized eggs for anything other than infertility treatment.

If such problems are left unsolved, experiments to establish ES cells would be practically impossible even if the Council for Science and Technology does develop guidelines. Research using human ES cell strains from overseas may represent the most realistic option likely in Japan.

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