Scientifically Speaking

Califano's five-year health plan

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British Medical Journal, 1979, 1, 96-97

Washington, DC—Joseph A Califano, jun, the Secretary of Health, Education, and Welfare (HEW) is a man of order, a man who likes plans. He is also a man of some impatience. Mr Califano has decided that what the United States needs is a "five-year health strategy" to put order into what he regards as a less-than-rational system for allocating funds for research. In true democratic spirit, he has called on the biomedical research community to take the lead in developing such a strategy to "help us organise our research efforts so that they will bear some recognisable relationship to the nation's health needs." The five-year strategy, Mr Califano decreed, must not only be completed but must also be translated into concrete budgetary terms by the fall.

Check on funds

Step one in the process is the creation of a set of "health research principles" to provide a philosophical justification for a political decision that says it is more important to spend money in one way than another. The entire exercise, which will generate enough paperwork to warm any bureaucrat's heart, has elements of high comedy and serious politics. The comedy lies in the process by which the health principles are being drafted, a case of public participation run amok. The seriousness is that the stakes become higher as the competition for limited research funds grows more and more intense. For the unpalatable truth is that, in President Carter's fight against inflation, biomedical research expenditures will be held in check at the same time that the number of federal agencies wanting research funds is on the rise. Donald S Fredrickson, director of the National Institutes of Health (NIH) and chairman of the health strategy steering committee, calls the effort toward writing health principles "a game that is being played for keeps."

The first that anybody heard of the Secretary's grand design was last April, when he invited himself to San Francisco to address the annual meeting of the American Federation for Clinical Research. "I have come across the country to pay tribute to you—and to signal the commitment of this Administration to the vital research enterprise you represent: a commitment that the President is determined to express not only in words, but in deeds," Mr Califano began. Then he told a standing-room-only crowd of a couple of thousand researchers about his plan to develop "for the first time" a strategy to guide allocation of "limited" research funds. And, although he went on to say that it is "foolish to think we could make significant savings by

cutting back biomedical research," the emphasis remained on the "limited." That was the message and that is the premise on which research principles and a five-year strategy are to be founded. He said that hard choices would have to be made, and he called on the audience to help make them. But Mr Califano also made it quite plain that he already has his own ideas about making choices, ideas that are in many ways at odds with those that might be made by researchers themselves.

While asking the research community to think about principles, he helpfully offered this example of one that might do. You start with a vapid generalisation—"To maintain at a high level and to enhance our support for fundamental research into biology and behaviour," and express a substantive viewpoint in a subparagraph such as, "There must be diversity in the research that we support. The population-based life sciences—biostatistics, epidemiology, various behavioural sciences—are at least as basic to our understanding of health as the more affluent and popular consumers of research dollars—biochemistry and molecular genetics." Now, the so-called hidden agenda begins to show. The Secretary has an idea of the kind of advice he wants: nutrition; prevention; aging. These are fashionable today. Biochemistry is probably okay, but Mr Califano has asked "that we undertake more research into the critical behavioural question of why people begin to smoke. . . ." And he is concerned not only about the NIH, which, with a current budget of \$2.7 billion, is the mainstay of basic research in America, but also with the other agencies in his vast department. Some of those agencies are for the first time competing for money in the NIH pot: among them, the Food and Drug Administration, the Health Care Financing Administration, and the Health Services Agency, all outfits whose mission is quite unlike that of the NIH.

Historic or histrionic?

Mr Califano's San Francisco speech was the opening shot in a participatory process that resulted next in his writing hundreds of letters to individuals and special interest groups to ask them about health research principles, all leading up to an extraordinary conference that was held at the NIH in October. Hundreds of America's leading scientists, including at least nine Nobelists, descended on the NIH campus just outside Washington, DC, to draft the principles that would be the basis of the new five-year strategy. Mr Califano opened the conference by saying it marked the "beginning of something that we can all look back on as historic." Histrionic would have been a better word. For two days, panels of experts listened to other equally intelligent individuals "testify"—in no more than five minutes each—about what they thought the nation's health principles should be. They ranged from simply self-serving to ludicrously so. One group struggled with a definition of basic research, only to conclude that "A search for knowledge directed toward the understanding of life, health, and disease" doesn't quite do it. Special pleaders by the score testified that funds should be cut anywhere but on their own research. Witnesses argued for more

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radiology, more genetic counselling, more research in brittle-bone disease, and more in narcolepsy. Increased research into Gilles de la Tourette syndrome was called a matter of national priority. An American Indian advised that a medicine man be appointed to the NIH director's advisory council.

At the conference's closing session, NIH director Fredrickson pronounced the meeting a success—and drew a round of subdued laughter. When he described the entire exercise as a “peculiarly American approach to the problem” of establishing research priorities, he was closer to the mark. Still, when the final document is written, it will be possible to put a tick in the box for public participation.

That document is to be on Mr Califano's desk by early summer. Throughout the fall, NIH staff laboured strenuously to make sense out of papers generated by the conference, a task made doubly difficult by the fact that not one of the five conference panels was willing to accept the premise that federal support of research will not increase. In December a draft set of principles was forwarded to the Institute of Medicine, where a review committee chaired by Irving London, director of the Harvard-MIT health sciences division, will have a go at turning it into a useful document.

Serious implications for future research

Although the process for drafting health research principles has about it more the air of a public relations manoeuvre than a

sensible approach to securing the collective wisdom of the research community, the politics that lie behind it hold serious implications for the future of research. As long as “health” was viewed in strictly medical terms and doctors were regarded as the principal purveyors of treatment for disease, it was natural that the NIH was the predominant research agency in the federal Government. But in recent years, two other factors have entered the health picture in important ways. One is cost: the effort the Carter Administration has made towards hospital cost control tends to make health services research and cost studies appear to be every bit as vital as classic biomedical research. The other factor is the environment: greater cognisance of environmental pollution as a cause of disease inspires more demands for more research into pollutants. In the States, toxic substances are under particular pressure. More than a dozen major federal laws have been passed to regulate toxic substances, but it has become apparent that the scientific base for implementing those laws is woefully inadequate. And so the regulatory agencies—the Food and Drug Administration, the Environmental Protection Agency, and others—are lining up to compete for funds that used to go exclusively to the NIH.

Some NIH officials hope that strongly worded health research principles will be a political advantage in the funding battles that lie ahead. Others take Mr Califano at his word, and see less money forthcoming for the kind of biomedical research that made NIH famous.

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A woman aged 78 with progressive cerebellar degeneration is greatly troubled by oscillopsia. There is no visible nystagmus but objects looked at are in constant motion. With an effort she can watch a fairly static TV programme but asks whether this is advisable and should she rest her eyes. What is the explanation of oscillopsia and do reading and viewing make it worse?

Oscillopsia is the sensation of constant movement in the visual panorama and is noted by many patients with acquired nystagmus. The amplitude of the nystagmus may be very small and not visible on external ophthalmic examination. In such cases the nystagmus can normally be identified on examination with the direct ophthalmoscope, when the examiner notes constant slight movement of the ocular fundus appearances. Nystagmus is a common manifestation of cerebellar degeneration, and, like intention tremor, its amplitude is often increased when the eyes carry out complex movements, as in reading. That is not to say, however, that reading or viewing television in any way risks causing permanent increase in the severity of the underlying condition. There is no firm evidence that any ocular disorder is ever made worse by using the eyes.

If a pregnant woman has dental radiography is the fetus at any risk from the radiation? If so is the risk greatest during the first trimester or does the risk apply throughout pregnancy? Finally, is the fetus of a dental nurse who works throughout her pregnancy at any extra risk due to the constant exposure to radiation?

For radiation protection purposes a basic assumption is that there is a linear relationship between dose and the probability of an effect: thus in theory all radiation doses are associated with a finite probability of an effect. In practice, however, the probability of an effect being produced at the level of dose encountered in medical and dental diagnostic radiology is very low indeed, and the benefits of these procedures far outweigh the very small risks. The fetus is not placed at any significant risk by dental radiography, and there is therefore no need to restrict these examinations in pregnant women. The period of organogenesis, the first trimester, is the period of greatest fetal radiosensitivity. When a woman is occupationally exposed to radiation the International Commission of Radiological Protection¹ considers that the fetus will

be adequately protected during these first months of pregnancy provided her annual exposure is within the value of 50 mSv (5 rems) and is received at a roughly regular rate. Once pregnancy has been diagnosed the commission recommends that the woman should work in conditions where the annual exposure is most unlikely to exceed 15 mSv (1.5 rem). These requirements will be readily met by the normal working conditions of a dental nurse.

¹ *Recommendations of the International Commission on Radiological Protection*. ICRP Publication 26 (Annals of the ICRP 1977, vol 1, No 3). Oxford, Pergamon Press, 1977.

A young man had an anal haematoma some months ago which cleared up but has left him with intermittent postdefecation prostaticgia. What treatment is advised?

Anal pain after defecation usually signifies fissure in ano. Severe anal spasm often makes digital examination difficult or even impossible but merely pulling apart the cheeks of the buttocks is sufficient to show the distal extremity of the linear tear within the anal canal, often accompanied by a tell-tale sentinel pile. Examination under anaesthesia will confirm the diagnosis, and a gentle anal dilatation is performed, combined with a lateral sphincterotomy. At the same time, any associated internal piles can be injected with 5% phenol in almond oil through a proctoscope. If digital examination fails to show any evidence of a fissure, proctoscopy and sigmoidoscopy should be carried out to exclude any other anal or rectal pathology. If nothing at all is found the rather unsatisfactory diagnosis of proctalgia fugax is made. This is a condition of unknown aetiology that may, however, be caused by spasm of the levator ani. It is particularly found in rather tense anxious personalities (doctors are frequent victims), and the pain is experienced within the rectum itself. It is worthwhile trying the effect of an anal dilatation under a general anaesthetic and, after this, the patient should be strongly reassured that no organic lesion is present. Often there may be an underlying fear of some sinister malignant condition. A high-roughage diet, which should include plenty of fruit, vegetables, and bran to ensure a regular daily soft bulky bowel action should be encouraged. Some patients find that firm pressure with the fist hard against the anal region when they have the pain is comforting, and inhalation of an amyl nitrite capsule relieves the pain for others.