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A question of life and death

Evening Standard
12.9.87

SEWAGE disposal and clean water will be the keys to health during life in the nuclear aftermath.

History shows that both did more for cleaning up infectious diseases in the past 100 or so years than any other single measure, says John Campbell-Macdonald. The rate of tuberculosis, for example, steadily fell from the 1880s onward-long before antibiotics came on the market.

"Although New Zealand has no manufacturing capability for human vaccines, animal vaccines are made here," says Campbell-Macdonald.

"The expertise now available could be used in the manufacture of human vaccines, which should be given the very highest priority. For some vaccines, this is not a particularly complicated process."

Both TB and polio could be taken care of without too much problem, but tetanus and typhoid would be more prevalent, and the manufacture of vaccines against them should be given high priority.

The importance of safeguarding against measles would increase, but there would be problems in making vaccines to fight such conditions as diphtheria, hepatitis and meningitis.

Of all the imported drugs, antibiotics would be the most sorely missed. Some would never become available again. Others require a manufacturing plant half the size of the Marsden Point oil refinery.

It is likely, though, that simple penicillins could be made.

"Inevitably initial supplies of penicillins would be crude and only partially effective against the prevalent bacteria which would have wide ranges of resistance to many classes of antibiotics," says Campbell-Macdonald.

Diseases spread from animals-bovine TB, brucellosis and hydatids—would need to be guarded against.

Once the supply of imported drugs dried up, older treatments could be used against ulcers and hypertension. These include antacids and extracts of liquorice for ulcers, and reduction in salt intake for people suffering from hypertension. Even surgery could again be used for ulcers.

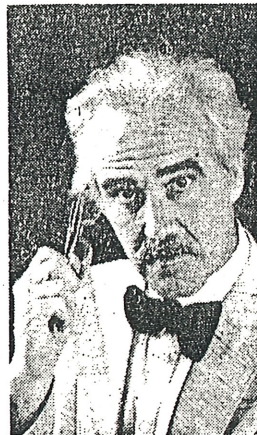
Says Campbell-Macdonald: "The anaesthetic gases required are available, the surgical equipment needed is not sophisticated, and disposables such as suture material could be readily manufactured locally."

Catgut, for instance, can be made using the same equipment that is currently used to convert sheep and beef intestines to squash and tennis racket strings.

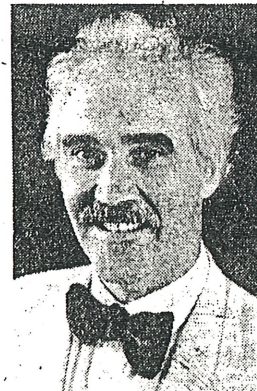
"While the incidence of stress-related ulcers would certainly increase, those related to tobacco would decline as most New Zealand tobacco products are imported."

Campbell-Macdonald notes many people would become fitter—whether they liked it or not—because of less availability of

RATIONING life — that's the grim prospect which will confront doctors in a New Zealand struggling to survive after a nuclear war as the drugs start to run out. Palmerston North doctor John Campbell-Macdonald, a member of International Physicians for the Prevention of Nuclear War, discusses the issues with features editor Alistair Browne in the wake of publication of the Planning Council study, *New Zealand After Nuclear War*.



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transport fuels, and this, coupled with less alcohol, would impact on rates of hypertension.

"If the Government is wise, the main thrust of the brewing industry will be toward the manufacture of antibiotics rather than alcoholic drinks.

"A very obvious secondary benefit from both of these circumstances will be a dramatic decline in road accidents, particularly involving young men, and a consequent decreased usage of accident and orthopaedic resources."

Campbell-Macdonald says in light of the Planning Council report, the Government should start seriously looking at providing a "residual pharmaceutical capacity" in New Zealand.

Such an industry could make baseline drugs like penicillin and its derivatives, insulin and anti-asthma drugs.

He says the Government should also take steps to have provided to it from the drug companies the crucial steps they employ in their manufacturing processes.

Such information could then be passed on to our chemists in the event of a disaster.

"We'll go back say 40 years — but not necessarily to the dark ages," says Campbell-Macdonald.

The crunch would come when doctors were forced to decide who lived and who died because of lack of drugs.

Should a dying cancer victim's life be extended by dipping into the dwindling supply of antibiotics, for example, when the next patient might be a child with meningitis?

Should precious drugs be used on an Aids victim — someone who is going to die anyway?

Campbell-Macdonald recalls an outpatients clinic he used to run in Zambia. In it there was a blackboard which listed the drugs which were currently out of stock.

"You would look at a person and might have to give them something else. There was a reasonable supply of alternatives."

In post-holocaust New Zealand such a blackboard list would be continually added to as supplies ran out.

What was available would need to be under lock and key in a central "secure" area while doctors pondered who got what.

Campbell-Macdonald says a system of consensus would probably have to be worked out so no one doctor was forced into the "horrible" position of rationing life.

Meantime, the drive would be on to find alternatives. Plants and herbs would be examined, poppies grown in greenhouses for the all-important provision of morphine, and so on.

Priorities would have to be set and adhered to.

Campbell-Macdonald remembers an earlier incident of priority-setting: "At the end of World War II the paediatrician at the Radcliffe Infirmary in Oxford had to plead with the medical officer of a local US air force base for penicillin to treat a child with meningitis. The air force doctor wanted to conserve his supply for the treatment of his airmen's gonorrhoea."