



Victorian Cancer News

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CANCER — A WORLD-WIDE PROBLEM

Reprinted from "WORLD HEALTH" (journal of the World Health Organisation).

Over two million people die each year from cancer. The total number of cancer sufferers in the world is more than five million. In addition, for every cancer patient there are four or five more with some form of pre-cancerous disease — although it does not necessarily follow that every one of these cases will develop into cancer.

What is this terrible disease? Many of the great scourges of mankind — leprosy, syphilis, tuberculosis, malaria — are less frequent than they used to be, and may possibly disappear altogether. But cancer is increasing. Certain forms of cancer are certainly more "common" than they used to be, because the physician has learned to recognise them, and also because life has been extended by advances in preventive and clinical medicine, and we know that cancer more frequently attacks the older age groups.

The cells of the human body, under the influence of a regulating mechanism, are born, live, divide, and die at a rate that varies according to the organ of which they form a part. It so happens that sometimes a malfunctioning of this mechanism occurs, the rhythm of cell division is upset and cell division occurs more rapidly than it should: a tumour begins to form.

Some of these tumours remain strictly localised at the site where they arise and are called benign; others spread and become malignant. Sometimes, if treatment is not started during the early stages, the cancerous cells erupt into the blood and lymph streams, which carry them to different organs of the body. We do not know yet how the regulating mechanism is upset, nor what causes the tumour to become malignant. We do know, however, a considerable amount about the variety of cancers, and how they occur in different parts of the world. For example:

- Skin and lip cancers are twenty times more common among white people in the southern half of the U.S.A. than among white people in the northern part of the U.S.A., while in the U.S.S.R. they are four to five times more common in the south than in the north.
- Breast cancer is over eight times more common among women in Israel than among women in Japan.
- Lung cancer is the most common cause of cancer deaths among men in England and Wales; in Iceland it is a much less common cause of death.
- Liver cancer causes half of all cancer deaths among the Bantu in Africa. In Europe and North America it accounts for less than 4 per cent. of cancer deaths.
- Cancer of the cervix accounts for half of all cancer deaths among Hindu women.
- Stomach cancer accounts for 50 per cent. of cancer among men in Iceland, 50 per cent. in Japan, 10 per cent. in the U.S.A., and even less in Indonesia.
- Sex differences, too, are very noticeable.



SURGEONS AT A MELBOURNE HOSPITAL OPERATE TO REMOVE A CANCER
Surgery is the oldest method of treating cancer, and still the most effective. New techniques, instruments and drugs today enable the surgeon to perform safer, more successful operations. Recent progress in this field is reflected in the increasing number of cancer cures.

TRIGGER FACTORS

How can we explain these differences? This is one of the tasks of the epidemiologist, who studies health and disease in relation to man's varying environment. The aim is to identify the factors which are crucial in the cause and prevention of disease and the maintenance of health.

The study of cancer epidemiology cannot explain the exact processes by which normal body cells become malignant. The understanding of this process lies in the research laboratory, where chemists, biologists and physicists carry out experiments. Epidemiology can, however, identify the trigger factors which are responsible for certain cancers.

Therefore, by removing or modifying these crucial factors the incidence of many cancers can be substantially reduced. Information thus obtained allows programmes of preventive medicine to be designed and applied. This is one of the major ways in which present knowledge can help to reduce human cancer.

The scientists who investigate the geographical distribution of cancer are trying to find the relationship between the different tumours and the external and internal factors influencing them. We know that cancer exists all over the world, and that there is no area with a cancer-free population. We find every form of tumour in all populations, from cancer of the skin to tumour of the heart, from cancer of the stomach to cancer of the cervix. There is, however, a marked difference between the incidence of each cancer in different parts of the world, as we have already seen, and it is natural that people living all over the world are subject to different influences.

A population may live in an urban or rural area. Environmental and geological influences differ — for example, the chemicals in the soil. The incidence of cancer of the skin among white people is potentially higher among those living in the tropics, where they are subjected to a far greater intensity of sunshine, than those living in higher latitudes. A variety of food is eaten by people all over the world. The soil and rocks below the surfaces of the earth are composed of different minerals, some of which give out a very small but persistent radiation. Furthermore, all life on this planet is subject to cosmic rays, which come partly from the sun and partly from outer space. These rays have extreme penetrating properties and have been found deep below the surface of the earth in mines.

All these external factors have an influence upon human life, and some may be responsible for upsetting the regulating mechanism which governs the normal growth of the cells of the body.



WALKABOUT Magazine

BRONZED LIFESAVERS CARRY OUT REEL DRILL WITH MILITARY PRECISION
Surf, sun and sand — essential ingredients of the Australian outdoor way of life. But too many people are ignorant or careless about the dangers of excessive exposure to the sun's rays. Unlike the natural protective process of tanning, repeated sunburn causes permanent damage to the skin and often prepares the way for tissue changes in which cancerous conditions may develop in later life.

As to whether cancer is determined by genetic or by environmental factors, interesting work has been done in various countries of the world, but has not, as yet, proved conclusive. The frequency of cancer tumours in American negroes has been studied and has been found to be quite different from that of negroes in Africa. On the other hand, Japanese and Chinese immigrants to California have so far developed the same kinds of cancer as their ancestors in the Orient. These results are not necessarily conflicting. The American negro has been in his new environment longer than the oriental; the picture may well change in future generations.

Another interesting observation is the following: U.S. cancer mortality statistics were drawn up separately for white and non-white persons for the first time in 1915. The order of cancer incidence from the highest to the lowest was then: white women, non-white women, white men and, lastly, non-white men.

In 1954 this order was exactly reversed with non-white men having the highest, and white women having the lowest incidence. It is difficult to believe that this represents a true racial difference in susceptibility to cancer. No explanation for this rapid reversal of order exists.

CANCER OF THE SKIN

Skin cancer is one of the most common, and we know that many chemical and some physical agents can be the cause. In fact, the first accurate description of skin cancer was given as long ago as 1775 by Sir Percival Pott. His classical account of cancer of the scrotum of the chimney sweep is one of the most exact.

Since then, many chemicals derived from coal and oil, from the combustion of natural gases and from arsenic have been recognised as causing cancer. Wherever intimate contact occurs between the human skin and certain of these products there is a danger of cancer, depending on the degree of concentration of the chemicals and the precautions taken. In addition, radiations such as X-rays, alpha, beta and gamma rays give rise to skin tumours in experiments with animals. We now know a great deal about these dangers, and stringent precautions are taken in atomic research laboratories and atomic power stations.

Skin cancer is often found in farmers, sailors and other open-air workers. For some time now such cancers have been correctly attributed to ultra-violet radiation from the sun. Many cases have been observed in Australia and in South Africa, and generally among white-skinned people living in the tropics.

As a rule men are more frequently affected than women, and the cancer occurs particularly often on the lower lip. It has been suggested that lipstick helps to protect the mouths of women from the direct rays of the sun. Australian aborigines are ten times less sensitive to sunlight than white Australians, and olive-skin and yellow-skin races occupy an intermediate position. It seems clear to research workers that exposure to sunlight over long periods, from ten to twenty-five years, is necessary before cancerous conditions occur.

During the last six years the Academy of Medical Sciences of the U.S.S.R. has sent special expeditions to investigate the geographical distribution of cancer in various parts of the Union. These expeditions, under the leadership of Dr. A. V. Chaklin, who is now head of the cancer unit of the World Health Organisation, were some of the first of their kind.

The U.S.S.R. covers a very wide area and it has been possible to examine the prevalence of skin cancers in the south and compare them with the more northern regions. Some of the results are given in the following table:

District	Percentage of skin cancer among all malignant tumours
Shores of the Black Sea	23%
Shores of the Caspian Sea	14%
Shores of the Baltic Sea	8%
Shores of the White Sea	8.5%
Shores of the Barents Sea	5.8%

The members of this expedition became convinced that the prevalence of skin cancer is undoubtedly associated with the climatic and geographic character of the district. Further work produced even more specific results. The fact was established that in coastal areas away from the sea the percentage was lower. This relates to the condition of Hemingway's hero in *The Old Man and the Sea*, in which pre-cancerous lesions on the face are accurately described.

The action of ultra-violet radiation from the sun was also directly confirmed by Petrov in Russia and by Roffor in the Argentine. Both these workers shaved the skin of rats and exposed them to long periods of hard sunshine. Cancerous lesions developed.



WALKABOUT Magazine

DROVERS ON THE TRACK IN OUTBACK NEW SOUTH WALES

The long hours of sunlight and the hot, dry climate are largely responsible for Australia's high rate of skin cancer. Outdoor workers like these men help protect themselves against the risk by wearing protective clothing and leaving only minimum areas of the skin bare to direct sunlight.

In India, two forms of cancer of the skin arise from very special habits. The people of Kashmir, a cold region in the Himalayas, keep warm during the early winter months by carrying under their long shirts an unglazed earthenware pot packed with smouldering dry maple leaves. This leads to a severe rash covering the abdomen and part of the thighs, and after many years may lead to cancer.

The other skin cancer specific to India is the dhoti cancer, and is seen among the poorest of the poor. A piece of cotton cloth is worn to cover the lower part of the body, called dhoti for men and sari for women. It is tightly tied around the waist. The needy work, sleep and bathe with the dhoti firmly attached to their loins. After wearing this garment for many years, loss of skin colour, glazing of the skin, and occasional cancer of the skin of the loin or groin results.

CANCER OF THE ORAL CAVITY

Cancer of the cavity of the mouth and the tongue is well known and also very common in India, where it far exceeds the number of cancers in any other part of the body — particularly among men. This remarkably high incidence is associated with the habit of slowly sucking a mixture of tobacco and lime. It is common for the poorer people to rub with the thumb a powder of dried tobacco and slaked lime in the palm of their left hand until the desired mixture is obtained. This mixture, khaini, is then put into the mouth in small amounts and at frequent intervals during the day, and gradually swallowed after dilution with saliva.

Cancer of the mucous lining of the cheek is also exceedingly common in India and Ceylon, and is believed to be a consequence of chewing tobacco mixed with betel leaf and betel nut. It is interesting to note that patients addicted to chewing betel had a lower incidence of cancer of the mouth after adequate dental treatment and following simple rules of oral hygiene, although they continued chain betel chewing.

Professor V. R. Kanolkar and other experts have carried out some interesting studies on this problem in India.

Another type of cancer common in the eastern coastal regions of India, Andhra State, is that of the hard palate. It is associated with the habit of smoking a cigar (chutta) with the burning end inside the mouth.

Cancer of the oral cavity is also very prevalent in Central Asian districts of the U.S.S.R. where people chew "nass," a mixture of tobacco, ashes, lime and cotton-seed oil. In some districts, cement



A WOMAN SMOKING CHUTTA
In parts of India the habit of smoking a special type of cigar, called Chutta, is fairly prevalent. It has been found to be associated with cancer of the hard palate, which is common in that region.

replaces lime. U.S.S.R. medical workers have found a very significant correlation between cancer of the mouth and cancer of the lung in those districts where, in addition to chewing "nass," papirossy cigarettes are smoked. Much smoking and little chewing went with a high incidence of lung cancer: much chewing and little smoking went with a high incidence of cancer of the oral cavity.

STOMACH AND LIVER

Cancer is the chief cause of death in Iceland, accounting for 20 per cent. of all deaths. Fifty per cent. of all cancer deaths in men and 33 per cent. of all cancer deaths in women are stomach cancers. If race were the determining influence, people in Iceland might be expected to have cancer patterns like people in Norway and Great Britain. But this is not the case, and the explanation must be sought in the environment, perhaps in the food.

Icelandic food is very rich in protein, especially animal protein in the form of fish and mutton. Scientists found that in one family the grandfather, father and son had all died of gastric cancer, and they investigated closely the cooking habits of that particular family. The same frying pan had been used time and time again for the preparation of food without cleaning it, and the suggestion was made that the accumulation of burnt fatty materials might, over the years, lead to irritation of the stomach walls and to a predisposition to several chronic gastric diseases, some of which might develop into cancer.

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COMMUNITY EDUCATION ON CANCER

ANNUAL REPORT OF THE PUBLIC EDUCATION COMMITTEE, 1962

"If someone invented a drug that would cure half the present cases of cancer the excitement would be beyond belief. We have such a drug — and I am completely serious. It is communication." (Dr. L. Baumgartner, Commissioner of New York City Department of Health.)

Education of the public in the basic facts about cancer provides one means of defence — some authorities would say the most practicable defence — against the disease today. At the present time, and until such time as research succeeds in developing generally effective methods of cure, early diagnosis and prevention offer the greatest immediate promise for cancer control. The key to both resides to a significant degree in a broad-based programme of public education.

The Committee has long recognised this important role of education in cancer control, and during 1962 it actively sought to extend the scope of its activities in order to reach the widest possible adult audience with life-saving information. Experience over the previous four years had shown that under the most favourable conditions we could not reasonably expect to inform more than a minute percentage (perhaps 5% at most) of the population about cancer through the medium of public and group meetings. Accordingly, while the lecture service was continued, increasing attention was given to the development of alternative educational methods which afforded the prospect of reaching a mass audience. Innovations along these lines during the year included the introduction of a Mobile Information Unit and Information Stall, regular screenings on television of a "short" advertising the warning signs of cancer, and the initiation of a special education service for business and industry. Arrangements were also completed for the commercial screening of the Council's film "You Are Not Alone."

LECTURES

The provision of lectures and/or film screenings at meetings sponsored by community organisations continued to be one of the Committee's major activities during the year of this report. Members of the Speakers' Panel gave 99 talks, 61 in the metropolitan area and 38 in country centres, to a total audience of some 3,635 people. This brings the total number of lectures presented to local audiences since 1958 (excluding Country Education Week meetings) to 559, and the total attendance to more than 22,000 people.

There is no doubt that direct communication between lecturer and audience is the most effective method of influencing public attitudes towards cancer. For this reason efforts will be made during the coming year to stimulate requests for anti-cancer talks, the number of which has declined somewhat over the last two years following the record number of 248 talks given in 1960.

THE COUNTRY CAMPAIGN

As in previous years, many of the Council's Country Committees took an active interest in the public education programme. "Cancer Education Weeks" at Colac and Portland, sponsored by the respective District Committees and featuring public meetings, film screenings and literature distribution were especially successful. In each case the campaign received very generous press and radio publicity. In North-eastern Victoria the Committees at Bright, Myrtleford and Mount Beauty conducted a joint educational campaign with a series of well-attended public and group meetings. In the course of these three campaigns 16 lectures were given, attended by 1,365 people in all. Public meetings were also arranged by the Yallourn and Yarram Committees.

The acquisition of the Mobile Unit early in the year made possible a considerable expansion of the Committee's work in country areas. In particular, it facilitated the implementation of plans for a Literature and Information Stall at country Agricultural Shows. An all-weather portable stall was built to the Committee's design, and exhibited at the Ballarat, Colac, Horsham, Mildura and Shepparton Shows under the sponsorship of the local Cancer Committees. The State Health Department joined with the Council in sponsoring the Stall at the Royal Melbourne Show, where its success exceeded expectations. It is estimated that close to 10,000 copies each of "Cancer Facts for You" and "Shall I Smoke?" were distributed, while some 2,000 sets of our other publications were handed out on request.

The Mobile Unit also visited Ouyen, Castlemaine, Colac, Yallourn and Yarram during the year. The display panels always attract considerable interest and must help to make many more people aware of the importance of early recognition of the warning signs.

EDUCATION IN SCHOOLS — TEEN-AGE SMOKING

With regard to cancer prevention, there seems little doubt that the greatest potential lies in prevention of lung cancer — the one major form of the disease the incidence of which is rapidly increasing at the present time. The Committee has accepted the evidence of a causal relationship between smoking (particularly of cigarettes) and cancer of the lung, and attaches particular importance to informing potential smokers of the risk involved before they have started to smoke, or before the habit is well established. Believing an educational programme in the schools to be the most appropriate and

effective means to this end, the Committee, with the full approval of the State health and educational authorities, has initiated lectures on the subject in secondary and technical schools.

The American Cancer Society's film-strip "To Smoke Or Not To Smoke" has been used extensively in this campaign. In the course of the year it was presented, in conjunction with lectures by the Public Education Officer or Medical Officers of the Health Department, at 32 secondary or technical schools to more than 10,000 pupils. Several other schools have borrowed it for internal use under the direction of members of the teaching staff, and the Regional Committees at Ballarat and Bendigo obtained sets for loan to district schools. Sets were also provided to the Schools' Medical Service for use in health education lectures in the Teachers' Training Colleges.

However, it is unlikely, as Mr. John Wakefield points out in the 1961/2 Annual Report of the Manchester Committee on Cancer, that merely warning young people of the dangers involved will have much effect on their smoking habits. What is needed is for some of the "teen-age idols" — sportsmen, singers, etc. — to make it clear that they themselves are non-smokers. This, he thinks, would help to reduce the social pressures on the teen-ager to take up smoking. This being so, it is highly encouraging that two prominent Australian sportsmen, Olympic swimmer Murray Rose and Geelong footballer Alistair Lord, have authorised the Committee to make use of their names in anti-smoking education. It is expected that other sportsmen will also be prepared to co-operate in this way.

The Committee's programme has the further objective of alerting adults, particularly parents, teachers, youth leaders and others, concerned with the health and welfare of young people, to the extent of the problem. A 16-page booklet, "Smoking and Your Health," was prepared and issued to the public in November. Within six weeks more than 25,000 copies were distributed to teachers, churches and youth organisations, medical practitioners, and individuals. A poster warning that "one in ten heavy cigarette smokers dies from lung cancer" was also prepared for display on public transport, in municipal offices and elsewhere.

We are greatly indebted to the educational and health authorities who have given the campaign their complete support. With their help it is proposed to further intensify our programme in the schools in 1963.

EDUCATION SERVICE FOR BUSINESS AND INDUSTRY

Following discussions with Industrial Medical Officers representing six large manufacturing concerns, it was decided to introduce a specialised education service for business and industry in the course of the year. Unfortunately, progress has been disappointingly slow, although a successful pilot programme was initiated by Dr. L. R. Menogue at Australian Paper Manufacturers Ltd., and enquiries were received from a number of smaller firms.

The experience of the Manchester Committee on Cancer in the development of a business and industry service suggests that for this type of project to succeed it is important that everyone who may be affected by the scheme should be fully informed beforehand of what is planned, and every effort made to enlist the active support of influential businessmen, executives and union leaders. Explanatory letters should be sent to bodies such as employers' associations, trade unions, Chambers of Commerce, professional groups, industrial medical officers, etc., outlining the objectives and organisation of the scheme, and in addition an officer of the Council should be available to visit individual firms to discuss, with both management and labour, arrangements for a programme suited to the particular organisation. In arranging a programme, the convenience of the firm concerned should be paramount and every effort made to minimise any disruption caused to normal factory and office routine.

I believe that the potential value of an education programme for business and industry as a means of saving more lives warrants rapid development of the present service. This, however, can hardly

be accomplished without radical re-organisation. Ideally, this development needs to be the responsibility of a senior officer (part- or full-time) — preferably with some experience in industrial and labour relations — who has the ability to work equally well with management, unions, and professional bodies.

LITERATURE

Two important new publications — "A Handbook for the Guidance of Country Cancer Committees" and "Smoking and Your Health" — were issued by the Public Education Committee in 1962, together with a reprint of the booklet "Cancer — Your Questions Answered." The Handbook is a 48-page manual designed to assist the Regional and District Committees in planning their educational and welfare activities. The booklet on smoking, which sets out to present the facts about the relationship between smoking and lung cancer, has already been referred to. The Committee was gratified to receive editorial support from "The Age" (30/10/62) as follows:

"The Anti-Cancer Council of Victoria is to be congratulated for the work it is doing in bringing home the facts on smoking and its relationship to cancer. The booklet now being distributed approaches the problem in a sensible and proper manner. Rather than hectoring confirmed smokers the case is presented calmly and clearly for young people who may be tempted to begin smoking to decide from all the available evidence whether they shall do so. The community has a responsibility to the younger generation in matters such as this. It is to be hoped that the information in the Anti-Cancer Council booklet will be widely disseminated and carefully studied."

Four issues of our quarterly Newsletter, "Victorian Cancer News," were published during the year. Circulation continues to increase, and 3,000 copies of each issue are now being distributed.

At present in course of preparation are a booklet on "Cancer of the Skin," which Mr. B. K. Rank, F.R.C.S., has kindly offered to write on the Committee's behalf; a multi-lingual folder in Dutch, German, Greek, Italian and Polish for the information of non-English-speaking migrants; and an illustrated folder on the effects of smoking for distribution to children in primary schools.

MASS MEDIA (PRESS, RADIO AND TELEVISION)

The Council has continued to receive much helpful publicity through the columns of the metropolitan and country press, and these regular reports undoubtedly help to keep the public informed and interested in the Council's educational, research and welfare activities. Particular mention may be made of the generous assistance received from the newspapers at Colac and Portland, whose excellent coverage of the "Education Weeks" in these two centres contributed substantially to the success of our campaign.

The past year witnessed our first venture into the field of television advertising. A 60-second cartoon "short" on the seven warning signs of cancer was prepared and submitted to the three metropolitan television stations. The Committee is gratified to report that all three channels have subsequently televised the "short" on numerous occasions, often at peak viewing times, without charge to the Council, and wishes to record its deep appreciation of the public-spirited co-operation we have received from the station managements. Our sincere thanks are also due to Mr. John Clemenger for his valued assistance in this matter.

The Education Officer was interviewed on the country television stations at Ballarat, Bendigo, Shepparton and Traralgon, and the national and commercial radio stations were equally helpful in providing facilities for promotion of the public education programme. I would like to express our gratitude to the managements of the stations concerned for providing this opportunity of reaching a wide and varied audience.

FILMS

Negotiations have now been completed with Hoyts Theatres Ltd. for the commercial distribution of the Council's educational film "You Are Not Alone," and it is understood that this will be screened at Hoyts' city and suburban theatres early in 1963. The 16 mm. version of the film will subsequently be widely used in our general education programme, and interstate cancer organisations and the Commonwealth National Film Library have expressed keen interest in obtaining copies. A second film featuring actual patients cured of cancer has been commissioned from Zanthus Films (Mr. and Mrs. Adrian Boddington) and will go into production during 1963.



A Cancer Education Lecture for employees of a Melbourne printing firm.

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SHE WORKS TO SAVE YOUR PET

by Elizabeth Auld

Does the odd variety of food from its master's diet that finds its way to the pet's dish, affect its health?

It could, but these scraps are so varied that Dr. Anne Jabara, the only person in Australia doing full-time research on canine tumours, says it would be practically impossible to pin them down as a definite cause of a tumour.

There's scarcely a veterinary surgeon in Australia who does not believe that dogs have little tid-bits from human's diet along with their own special food. Maybe the dogs are no worse for it, but it does make the question of causation a puzzle for any ailment they develop.

If Dr. Jabara's self-chosen job sounds depressing, remember that the more research she can do into canine tumours the better the chance for other dogs.

The wider the research, the better the basis for diagnosis and prognosis, and the bigger the chance of contributing to the elucidation of the general problem of cancer not only in animals, but in human beings as well.

Anne Jabara has always been a dog lover, so when her professor suggested six years ago that she should be a canine pathologist, she jumped at the idea. Then she made it her thesis for the Doctorate of Philosophy in Pathology she took last year.

She has found her research more and more fascinating, especially for the help it can be for dogs and other animals, and for the clues it may provide to the many as yet unanswered questions in this field.

Other Australian scientists are working on the diagnosis of canine tumours, but not full-time like Dr. Jabara, and she is the first in this country to try to analyse these tumours statistically, to build up a classification and, by following the progress of patients post-operatively, to arrive at a better basis for prognosis.

The Anti-Cancer Council of Victoria through their generous support over the last six years has enabled Dr. Jabara to continue her full-time research.

She has already spent seven months abroad studying overseas research and making valuable contacts for exchange of information, and she is now preparing a reference book on canine tumours.

Veterinary surgeons from all over Australia send her tumours they have removed from patients, and she sends them all a full report, which often helps in the treatment of the animal concerned and which may be useful in another case. She herself seldom sees the animal patients.

Sometimes her advice is sought on treatment—whether a cure is certain or problematical; whether it is worth removing a recurrent tumour; what the chances are of survival.

The vets contact her at Melbourne University Pathology Department, where

she examines and classifies all tumours that come her way from animals and birds, and follows up the results of operations.

The important thing is to gain a sound basis for diagnosis and to learn exactly what to expect in the future for a patient suffering from a particular neoplasm—complete cure, recurrence, or metastases.

The more work that comes her way the better, because the greater the number of cases, the better the figures available for statistical comparison.

Unfortunately, many pet owners are against autopsies of their pets. "It's quite understandable," said Anne Jabara, looking fondly at her brindle boxer, Tiger. "But I think if they realised that it could help some other pet in the future more would agree to them."

"The reluctance of owners to allow autopsies is a big handicap to research, because it is then impossible to follow the whole history of a neoplasm which, for several reasons, is of prime interest to a canine pathologist.

"After all, the pet is beyond suffering and the more we know about dog ailments the better chance vets have of exactly diagnosing conditions in other dogs. Animals can't tell us how they feel."

Dr. Jabara's large interstate veterinary clientele sends her a variety of tumours from many kinds of animals, including cats, horses, sheep, cattle and even budgerigars.

"Studying tumours removed by vets, often successfully, along with their case history, helps to clarify the general problem in relation to cause and treatment of canine cancer," explained Dr. Jabara. "Fortunately, many are benign."

Dogs, like humans, are X-rayed, given surgical treatment, and a number of drugs and hormones. In some cases these methods are mainly palliative rather than curative. But they will prolong a dog's life for devoted owners, for whom she has these comforting words:

"Unlike man," she said, "dogs develop very few internal tumours. The majority of canine neoplasms, whether benign or malignant, are situated in the skin or mammary glands, and are easily removed if taken early."

"So much depends on the owner observing the swelling or lump in good time for its complete removal and cure."

"If a dog becomes listless, curls up in a corner looking sorry for itself, and loses its appetite, and there is no other obvious cause, it is always wise to take it straight to a vet. These may be signs of a possible internal tumour."



Dr. ANNE JABARA WITH HER PET BOXER, TIGER.

NEW IDEA.

"Between 5 and 15 per cent. of the dog population, because it so often lives to a ripe old age, develops a tumour of some sort," she said.

For some reason, there are considerable species differences between tumours in man and in dogs. Location and behaviour of certain tumours are different, too, even among dogs. For instance, London dogs have a high incidence of malignant tonsillar tumours, but this type is almost unknown in Australia.

Cats are not so prone as dogs to develop tumours, but exhibit a high incidence of them in the intestine. Hereford cattle develop tumours of the eyelids. Why?

These and other questions are facing Dr. Jabara all the time as she classifies her work. This is not completely on tumours. Every now and again something else reaches her for investigation. A number of valuable greyhounds died last year, believed to have been poisoned, and some of them were autopsied at the Pathology Department.

"I found no poisoning," said Dr. Jabara, "but that death had been caused by a virus infection."

One dog was brought in for examination, suspected of having been poisoned or of having TB.

"It had a ruptured spleen, as the result of a road accident," she said. "Another animal, knocked down by a car, developed huge blood clots.

"The more we can do to diagnose their troubles the better for all dogs," she concluded. "Fortunately, animals don't seem to suffer pain to the same extent as humans, but if we can save them any pain, our research is all the more worthwhile."

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REGIONAL CANCER CONFERENCE AT BENDIGO



Forty representatives of Cancer Committees in the Loddon Region attended a Regional Conference at Bendigo on 28th February. Among those taking part were (left to right): Mr. W. A. Dick, Chairman of the Anti-Cancer Council's Public Education Committee; Cr. W. J. Kilpatrick, C.B.E., Chairman of the Council's Appeals and Welfare Committees and President of the Australian Cancer Society; Cr. N. J. Oliver, J.P., Chairman of the Bendigo Regional Cancer Committee; Mrs. R. A. Rae; Cr. R. A. Rae, J.P., Mayor of Bendigo, and Mr. R. Chisholm, Hon. Secretary of the Regional Committee.

COMMUNITY EDUCATION ON CANCER

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Films from the Council's library were screened at the great majority of education meetings held during the year. Selected films were lent to the State cancer organisations in Queensland, South Australia and Western Australia, and to the District Hospital at Geraldton, W.A.

The State Film Centre has continued to include anti-cancer films in its general film programmes throughout Victoria, as well as lending them to registered borrowers upon request. The Centre reports that during 1962 there were 264 individual screenings, with a total statistical audience of 21,120 persons.

RESEARCH

The assessment of the success of any programme of public education on cancer is difficult, since the only true measure lies in whether or not people are more willing to seek medical advice more promptly as a result of the information imparted than would otherwise be the case.

For several years past the Department of Psychology at the University of Melbourne has conducted research into public attitudes towards cancer with a

view to ascertaining the extent to which the Committee's campaign is affecting these attitudes. Results to date have been inconclusive, and it is now proposed to complement these investigations by a study among cancer patients which it is hoped will clarify the reasons influencing people with cancer symptoms to seek treatment, and indicate whether or not the educational effort has motivated action to any significant degree. The Queen Victoria Memorial Hospital has agreed to co-operate in this project.

APPOINTMENTS

Three members of the Committee have been appointed to the Public Education Committee of the Australian Cancer Society, including the Chairman, Mr. W. A. Dick, who has accepted the position of Chairman of the National Committee, Mr. Victor Stone and Mr. D. Warren. The Education Officer has been invited to join the Committee on Public Education of the International Union Against Cancer.

December, 1962.

A. J. BROWN,
Public Education Officer.

CANCER: A WORLD-WIDE PROBLEM

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Similarly, in Japan a very high incidence of stomach cancer has been observed, although the food habits of the Japanese are very different from those of the Icelanders. Japanese consumption of milk is very low, and frequently there is only a small intake of animal protein. All one can say so far is that it seems to be a general rule that people living in colder climates have a higher rate of stomach cancer than those living in milder climates. This has also been found in the U.S.A. Why this should be so has not yet been explained, but surely it is more than a coincidence.

Primary cancer of the liver is South-East Africa's most challenging cancer problem. It is comparatively rare among people of white skin in Europe, America, Africa or elsewhere, but remarkably prevalent in the aboriginal races inhabiting the vast territories south of the Sahara desert, and occurs particularly between the ages of 20 and 40 years. The disease makes steady, silent progress over a long period, and the patient is usually unaware of it until the malignant liver has reached a large size. There is as yet no form of therapy which will cure or even delay the rapid and inevitably fatal course of the disease.

The cause is still unknown, although recent research work on malnutrition of babies in this area may point to an answer. The monotonous diet and the almost complete absence of milk after weaning and of meat during the first few years of life leads in many cases to the dreaded kwashiorkor. One of the

symptoms of kwashiorkor is severe cirrhosis of the liver, and it is not unreasonable to suspect that this damage to the liver during the early years of life may make kwashiorkor an important factor in the development of primary liver cancer. This evidence is so far only circumstantial.

BREAST AND LUNG

Breast cancer of women varies greatly in different parts of the world: it is high in the U.S.A., Australia and Finland; increasing in some countries in Europe and North America, and in Israel; very low in Japan, and in some areas of Africa and India. Unmarried women tend to have more breast tumours than married women. Similarly, breast tumours are more common in older women than in young ones, and in women who don't breast-feed their babies. The absence of birth control, long-time breast feeding, early marriage and the bearing of many children all apparently tend to prevent breast tumours.

Lung cancer has been known in industrial workers from the late 19th century on, and was first noticed among workers of the uranium mines in Czechoslovakia. It is also an occupational hazard for workers engaged in the refining of nickel, the manufacture of asbestos, and the production of coal gas, but does not occur nearly so often in these groups as among heavy smokers.

A marked increase in the death rate from cancer of the lung has been observed during the last 40 years in many countries, and the opinion of many scientists is that cigarette smoking is a major factor in the increasing incidence of lung cancer. That is not to say that there may not be other predisposing factors. One of them may well be the pollution of air in busy cities.

WORK OF W.H.O.

Whenever statistics are quoted, one of the basic problems of science is touched upon. For every figure a scientist must make an observation, and for this observation to be valid each measurement must be referred to an accepted standard. This is easy in the case of physical or chemical measurements, for accurate standards are available in every laboratory. When biological and medical measurements are made, such standards are often non-existent or just beginning to be made known and accepted. It is therefore vitally important, for the production of accurate statistics, to agree on comparable definitions and measurements, particularly when something like cancer is being studied.

Here W.H.O. is making a contribution. For example, the International Centre for Lung Tumours was established by W.H.O. in Oslo, under the direction of Professor Kreyberg. His main work is collecting specimens of lung tumours from all over the world and developing standard typing techniques. There are other international reference centres: for mammary tumours, under the direction of Professor R. W. Scarff in London; for soft-tissue tumours, under the direction of Col. Dr. Frank M. Townsend in Washington; and for leukaemia, in Paris with Dr. G. Mathe, and others. In all these activities, W.H.O. works in close collaboration with the International Union Against Cancer (U.I.C.C.).

In addition to this kind of work, a great world-wide educational campaign is imperative. The few examples quoted have shown the importance of food habits, and the influence of smoking and chewing. If the connexion between certain types of cancer and these habits were made clear, people could be spared much pain and suffering, and many an early death might be avoided.

On the other hand, kwashiorkor can easily be cured with skim milk, and it is education, plus the provision of this cheap and plentiful source of protein, that could change the picture of suffering and death from cancer in Africa.

It is the great challenge of our age that science has provided answers to some of our problems, but that as yet we have not been able to put this knowledge into practice.



WORLD HEALTH

THIS CHILD SUFFERS FROM KWASHIORKOR, a disease which cannot touch children who get enough milk, meat, eggs, or other protein-rich food. Doctors suspect that liver damage in childhood resulting from kwashiorkor may be an important factor in the development of primary liver cancer, common in many parts of Africa.