

The N.S.O. to whom it would be taken would check off the process on the list, and those cases not falling under the heading "Safe" would be referred to the appropriate medical officer, who should be a member of the Factory Inspectorate with power to examine the work as well as the patient before adjudicating.

Otherwise a copy of the list could be given to every doctor as a confidential official document. He would then know from it whether any given case justified recommendation for examination by the medical referee. The objection to this is again the cost and trouble of distribution, and the obligation which such specific information might place upon the doctor to press every case not graded as "Safe."

Each of the first two suggestions appears to meet the difficulty and would relieve the G.P. of an unfair and unwanted responsibility, the manufacturer of much waste and trouble, the N.S.O. of many difficulties, and the country of much loss and danger.

PHYSICAL EDUCATION IN ALLIED COUNTRIES CONFERENCE IN LONDON

A two-day inter-Allied conference on the wider aspects of physical education was arranged by the Ling Physical Education Association and held recently in the B.M.A. Great Hall in London. The aim of the conference was to promote international co-operation and to exchange ideas on the part played by physical education in the general scheme of national education in this country and abroad. The conference was opened by Mr. R. A. Butler, President of the Board of Education, who announced that a big development of the school medical service was in contemplation whereby the medical needs of the after-school adolescent would be covered. Representatives from Australia, Canada, South Africa, New Zealand, and India took the chair at the various sessions, and among those who delivered addresses were the Prime Minister of Belgium, the Greek Minister in London, and the Ministers of Education for Poland, Norway, Netherlands, Czechoslovakia, Yugoslavia, and Free France.

Health Services under the Soviet

Mr. A. Ruscoe Clarke, F.R.C.S., a member of the Anglo-Soviet Medical Committee, explained that the first five-year plan in Russia aimed at increasing the content of health services, the second concentrated on quality, and the third on the development of such services throughout the Union. He gave the following figures of this development:

	Qualified Doctors in Soviet Union	Hospital Beds	Budget for Public Health (Millions of Roubles)
1913	20,000	176,000	130
1928	63,000	246,000	660
1940	120,000	840,000	10,300

The service was free. As the bulk of Russian industry was State-owned, it was possible to finance health and other cultural services out of a proportion deducted from turnover in the big State enterprises. It was a unified service, with maximum co-ordination and a very large degree of central planning in accordance with the local needs and also the State budget. Preventive and curative services were not separated, and the aim was positive health rather than the patching up of failures. Health being everybody's business, and not that of doctors and nurses only, each factory, institution, school, or other community had its health committee, which planned the sort of things that must be done. The basic unit of service was the clinic or factory health station, which served either an industry or an area, and consisted of a team of doctors with specialists of various kinds, including pathologists and physiotherapists.

China's Medical Advance

Describing China's health services, Dr. G. H. Hsing Woo of Shanghai University said the National Health Administration—the headquarters of the central health services—comprised a field health station, a public health personnel training institute for supplying teaching staff for the provincial schools, a central hospital, a national epidemic prevention bureau, and highway health stations, which were established along the roads rapidly developing in the interior of China and serving a shifting popu-

lation of road-makers and others. Each station was able to undertake the medical and sanitary care of a length of country extending for 100 kilometres. The provincial health services, under the provincial Governments, also had their subordinate technical departments. The county health service was the rural unit, consisting of a health centre in the capital of the county, with clinic, diagnostic laboratory, and hospital of 50 to 100 beds, together with such services as maternity and child welfare. In each of the rural districts which made up the county there was a health station, and in every market town with a population of over 5,000 a substation. Out of the 108 colleges and universities which China had before the war, 91 were now enemy-occupied or damaged; but four centres of medical teaching had been set up where many of the medical faculties from the occupied regions had pooled their resources in teaching staff and laboratory equipment. The Medical Research Council in Great Britain was now investigating a recent report from Chinese research workers about an efficient substitute for quinine extracted from the root of a common plant in Yunnan. Under the joint antimalarial commission organized in 1939 antimalarial corps and an institute for malarial research had been established. Except in the areas under Japanese occupation China to-day was free almost entirely from the opium evil, but the Japanese were deliberately waging a "narcotic war" in order to destroy morale.

Three speakers from the American continent addressed the Conference—Dr. Achsa Bean of Rochester University, N.Y., Col. J. A. Macfarlane, surgical consultant with the Canadian Forces, and Prof. Arthur Newell, chairman of the American Outpost in Great Britain.

PROGRESS OF CANCER RESEARCH

At the beginning of the war, believing that cancer research would have to be restricted, the British Empire Cancer Campaign placed its appeal organization at the disposal of one of the war charities. But cancer research has still proceeded in many laboratories; no important investigation has been abandoned or seriously curtailed; indeed, the study has become more complicated and the reports of it more abstruse and technical. Therefore the Campaign has felt the necessity of making an immediate appeal for further funds, and the war charity has handed the appeal organization back to the Campaign.

The eighteenth annual report, again under the editorship of Mr. J. P. Lockhart-Mummery, is of pre-war standard in bulk and detail, and includes reports of work at about two dozen centres in this country and a dozen more in the Dominions.

Studies in Carcinogenesis

British laboratories have led the way in the study of cancer-producing and cancer-inhibiting substances, and several additions are made to this work in the present report. Investigations have been going on into the carcinogenic activity of a large number of new synthetic compounds. For example, in the Chester Beatty Research Institute of the Cancer Hospital research has been undertaken on 70 compounds, mostly new chemical substances specially synthesized for the purpose. The results support the view that there is an association between molecular structure and carcinogenic action. In the same laboratories an attempt has been made to determine the occurrence of carcinogenic factors in the body, and 17 sarcomas have been obtained in mice by subcutaneous injection of extracts of human liver obtained from cases of cancer in Europeans and from cases of cancer and of other conditions in Bantu. Efforts are being made to identify the active constituent of these extracts, and although the results so far obtained are difficult to interpret they form an encouraging basis for further work.

The possibility that wood smoke, much used for food preservation, might contain carcinogenically active compounds has been investigated in the cancer research laboratory at Newcastle-upon-Tyne, but the results seem to show no cancer-producing action. Further investigations have been carried out at the Oxford University research centre of the Campaign on the striking augmentation of carcinogenesis which occurs when croton oil acts on mouse skin in conjunction with a dilute solution of benzpyrene, and this co-carcinogenic effect has been traced to croton resin, a constituent of croton oil. It has also

been shown that croton resin, and possibly other non-carcinogenic skin irritants, are able to convert a pre-neoplastic into a neoplastic lesion. The fact that this can be brought about by substances which are not themselves carcinogenic may have important clinical implications.

In pursuing the relation between growth-inhibitory activity and carcinogenicity in certain of the hydrocarbons and other chemical substances, increasing attention is being paid to the possibilities of this correlation as a rational approach to chemotherapy. From several laboratories come reports of highly interesting chemotherapeutic studies. Although not related directly to the chemotherapy of cancer, some experiments of value have been carried out on the effects of sulphonamide compounds on tissue cultures; the results are of importance in connexion with cell growth. At the Physiological Laboratory, Cambridge, it has been found that sulphapyridine has no effect upon fibroblasts *in vitro*; sulphathiazole inhibits cell division and migration, but does not wholly suppress it, and sulphani- amide can cause a complete cessation of activity for as long as eighteen hours, during which the cells are motionless and do not divide.

Clinical Research

The work of the Clinical Cancer Research Committee of the Campaign in registering and following up the cancer cases seen in London hospitals has been continued, and now 15,000 case records are on that committee's register. This year the committee has chosen uterine cancer cases for detailed study, and the tabulations have brought out the nature of the first symptoms, the delay in seeking medical advice, the clinical classification on admission to hospital, and so on. Dr. Percy Stocks of the General Register Office reports on the statistical significance of these returns, and one or two of his conclusions may be quoted here. One is that liability to cancer of the cervix uteri is greater at every age among married and widowed than among single women, and especially between the ages of 45 and 65, when it is about seven times as great, whereas liability to cancer of the corpus uteri is somewhat less among married women and widowed than among single women, at any rate between the ages of 35 and 65. Another finding (based on the particulars furnished in between 800 and 900 cases) is that only 26% of the patients consulted a doctor within the first month of noticing the first symptom, and only 45% within the first three months. The doctors who were consulted made an examination promptly (at the first consultation in 75% of the cases), and referred the patient to hospital at once. In only 32 cases was the patient kept under observation for doubtful diagnosis, and there was not necessarily an error in diagnosis in all the 23 cases in which other forms of treatment were advised.

Irradiation of Malignant Tissues

Further evidence has been brought forward by workers at Mount Vernon that the reaction of normal tissues following irradiation by surface dosage rates of the order of 300 to 400 *r*/min. is less intense than the reaction produced by the same quantity and quality of radiation given at a dosage rate of the order of 20 *r*/min. The reactions of malignant tissue to high-intensity radiation appear to take place at an earlier date and to result in a greater degree of damage to malignant cells than those produced at lower dosage rates.

The enforced use of radon in place of radium has raised the question whether the same physical dose of gamma rays from radium and radon sources has the same biological effect. From work at the Middlesex and the Madame Curie Hospitals no differences have been observed, experimentally or clinically, under comparable conditions.

Finally, at St. Bartholomew's, clinical and physical work has been continued on the million-volt x-ray apparatus, but not sufficient numbers have yet been treated nor has anything like enough time elapsed to make statistical analysis of any value. One marked difference between treatment with 200,000-volt apparatus and with the million-volt in carcinoma of the rectum is that at the lower voltage even temporary disappearance of the growth was rarely observed, whereas with the million volts this has occurred in 11 out of the 25 primary cases treated, and in 2 of the 10 recurrent cases. There is no doubt that the million-volt apparatus has increased the possibilities of success in the radiotherapy of cancer, and so far there has been no case in which it could be said that treatment at 200,000 volts might have been better than at the higher voltage.

RESTRICTIONS ON CONVALESCENCE Coastal Areas of Eastern and S.E. England

The Ministry of Home Security would be grateful for the co-operation of the medical profession in connexion with the restrictions which have been placed by directions made by the Regional Commissioners under the Defence Regulations on visits to the coastal areas of Eastern and South-Eastern England.

In addition to pleasure visits, these restrictions apply to visits for the purpose of treatment or convalescence during or after illness, except as a patient under arrangements made under the Emergency Hospital Scheme or as a tuberculous patient at a sanatorium. Visits to all other convalescent homes, nursing homes, and other medical institutions in the area concerned are prohibited by the ban. Subject to the above exceptions doctors should not recommend their patients to undergo convalescence or treatment in the areas subject to the visitors ban.

The areas in which these restrictions at present apply are as follows:

(a) A coastal strip approximately five miles deep stretching from King's Lynn to the Thames; (b) the whole of Kent, *except* (i) those parts of the county which are within the Metropolitan Police District, (ii) the urban district of Orpington, and (iii) the rural districts of Sevenoaks and Tonbridge; (c) the coastal areas of Sussex from the Kentish border to Littlehampton, and extending northwards to include the rural districts of Battle, Hailsham, Chantebury, and Chailey; (d) the Isle of Wight.

It will be observed that in the South of England the coastal strip extends westwards as far as Littlehampton; thus it includes Brighton but not Bognor Regis.

DISMISSAL OF A COUNTY MEDICAL OFFICER

After an inquiry lasting nine days, during which 30 witnesses were examined, an application by the Northumberland County Council to the Ministry of Health for sanction to terminate the appointment of Dr. John Walker as county medical officer has been granted. The Ministry stated in its letter announcing its decision that "while the charges against Dr. Walker have not in every case been established, the doctor had been shown to have been seriously at fault in the administration of his office."

The inquiry was conducted by Mr. Gerard R. Hill, with the assistance of Dr. F. J. H. Coutts. The Northumberland County Council was represented by Mr. C. B. Fenwick and Mr. E. G. Sykes, and the respondent by Mr. A. H. Pereira, instructed by the solicitors to the London and Counties Medical Protection Society.

The inquiry terminated on Jan. 29, and the decision of the Ministry giving sanction to dismiss Dr. Walker was made known on April 9.

Reports of Societies

INJURIES OF NOSE AND THROAT

At a meeting of the Section of Laryngology of the Royal Society of Medicine on March 6, with Mr. E. D. D. DAVIS in the chair, Mr. V. E. NEGUS opened a discussion on injuries of the nose and throat. He dealt with fracture of the nose particularly in relation to the treatment of haematoma of the septum and the maintenance of asepsis. A splint made of about eight layers of rubber gauze coated with collodion was a convenient means of holding the fractured nose in position. A simple fracture of the anterior wall of the maxillary sinus was often best left alone, but not of the frontal sinus. The necessity in either case was the avoidance of infection. Combined fractures offered greater difficulties. If a combined fracture of the maxillary, ethmoidal, and frontal sinuses were seen in its early stages it might be possible to remove fractured pieces of bone and foreign bodies and excise skin edges and, if there was no gross infection, to close the wound, applying a sulphonamide powder as a precaution. If, however, the wound was infected treatment should be divided into two stages, the first stage being the removal of macerated skin edges (sparingly) and detached fragments of bone and foreign bodies, but without any extensive bone work. If the anterior walls of the frontal sinus or even of the maxillary sinus were removed in part or whole during the stage of infection there would be danger of osteomyelitis and intracranial complications, so that it was wise to do the least possible in the earlier stage, and later on—meaning by "later"