

United States ranging up to 12 in most plants and up to 18 in companies like General Motors. However, it should also be compared with the visit rate of about 6.5 per employee per year in those plants in this health service plan which do not have their own medical personnel. It further suggests the validity of the thesis that the medical personnel must furnish their services within the plant itself for maximum effectiveness.

The costs given are amazing if the article refers to the devaluated pound. Member firms pay 14 shillings (\$1.96) "per head." I surmise this is an annual cost. The actual cost of the service, exclusive of Farnham Park, is 33 shillings (\$4.62) per employee. (Compare this with an average of \$10.50 per worker in the Connecticut survey.) The difference between actual cost and cost to the plant is paid partly by the Nuffield Foundation, an agency that is said to be similar to the Rockefeller Foundation, and partly by Britain's National Health Service. The latter pays the cost of the patients at Farnham Park, £7-7-0 (\$20.58) per patient per week.

It is to be regretted that no figures or discussion is presented by which one might evaluate the net savings accruing from the plan as a return on the costs, nor any figures as to the effect on plant production, absenteeism, labor turnover or even its effect on employee morale. Such an evaluation might show the 130 member companies that it was worth their paying the whole cost and remove the need for such extensive subsidy. Subsidy suggests philanthropy, and we in America feel that industrial medical programs are so sound as business investments that industry should buy them for themselves.

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BERYLLIUM AND GROWTH: I. BERYLLIUM-INDUCED OSTEOGENIC SARCOMATA. M. B. HOAGLAND, R. S. GRIER and M. B. HOOD, *Cancer Research* **10**:629-635 (Oct.) 1950.

Insoluble beryllium compounds were injected into 24 rabbits, and osteogenic sarcomas developed in 7 animals within 11 to 24 months after injection. These tumors were highly malignant and metastasized rapidly. Seven other rabbits in the group apparently died of unrelated causes and were found to have remarkably fibrotic and contracted livers. All attempts to transplant these tumors met with failure. The serum alkaline phosphatase activity rose rapidly, paralleling the spread of the tumor throughout the body, and the activity of this enzyme was extremely high in the tumor tissue itself. Magnesium was found to activate, and beryllium to inhibit, the phosphatase associated with the sarcoma in the same manner in which these metals affect normal alkaline phosphatase. The importance of an extremely malignant sarcoma produced by a simple metal oxide, in the light of the known effects of beryllium on certain enzyme systems, is discussed.

ADAPTATION OF AUTHORS' SUMMARY.

PLANTATION MEDICINE. *Indust. Med.* **19**:341-381 (Aug.) 1950.

Articles are presented as follows: "The Sugar Industry," by N. P. Larsen; "Plantation Medicine—Past, Present, and Future," by W. B. Patterson; "Plantation Medical Plan," by A. L. Dean; "Panel on Fractures"; "A Case Report on Rheumatoid Arthritis," by J. A. Burden; "Annual Report of the Medical Adviser, H.S.P.A.," by N. P. Larsen; "Pineapple Plantations' Prudential Plan," by W. H. Wilkinson; "A Plantation Manager Talks to the Doctors," by R. M. Allen; "Industrial Application of Preventive Medicine," by L. J. Goldwater; "The Industrial Patient," by E. C. Holmblad; "Heart Disease in Relation to Employment (panel)"; "When a Plantation Hospital Is Discontinued," by P. H. Liljestrand; "Nuclear Physics and Effects of Radiation on the Human Body (summary)"; "Treatment of Eye Injuries on a Plantation," by H. Kushi; "Industrial Eye Programs in Hawaii," by W. J. Holmes; "Head Injuries," by R. B. Cloward; "Treatment of Chest Injuries," by J. E. Ferkaney; "Essentials of Superficial Roentgen Therapy," by H. L. Arnold.

SYMPOSIUM: CARDIOLOGY. B. M. OVERHOLT and others, *Indust. Med.* **19**:503-534 (Nov.) 1950.

- "Routine Electrocardiography in Industry," by B. M. Overholt, page 503.
- "Coronary Heart Disease and the Employee," by Arthur J. Geiger, page 509.
- "Acute Coronary Artery Disease and Effort," by Arthur M. Master, page 512.
- "Rheumatic Heart Disease and Employment," by Benedict R. Harris, page 513.
- "Occlusive Diseases of the Arteries," by Hugh Montgomery, page 517.