
Some 47 years ago, mining operations started in the Zambian copperbelt in virgin tropical bush. Whole townships were established, providing amenities, including wide health services for the inhabitants without existing local authority or government services. Until 1958, when Kitwe General Hospital opened, mine hospitals also catered for non-mining communities.

Three main mines were partially nationalized (the government being a 51% shareholder) in January 1970, with three divisions, and in January 1971 a fourth division was added. The Group's four major mines have their own medical department and chief medical officer. The medical service activities are reviewed in minute detail but the total mining population is not mentioned. Six hospitals with 847 beds have 33 medical officers, 9 specialists, 145 state registered nurses, and 278 certified nursing assistants with supporting ancillary staff.

Most tables relate to hospital activities although obviously the medical service caters for other illness and accidents as well as the public health field. No major outbreaks of infectious disease were reported, although summer diarrhoea incidence is high with few positive bacillary dysentery cases and no positive typhoid fever cases. Measles incidence is high with 104 deaths out of 1427 cases and major immunization is planned for 1972. Prevention, mainly house spraying, has produced virtually malaria-free mine townships. Most cases (all age groups) occurred in local inhabitants, but the majority in 2-year-olds and under were from outside control areas. Malnutrition incidence remains high. Health education is intensively directed towards school and community development training centres. In the occupational health field the greatest mining hazard is pneumoconiosis but it is not reflected in the tables, with no certification rates. Pulmonary tuberculosis among scheduled employees exceeds the numbers of first certifications of pneumoconiosis by 2 to 1. Tuberculosis not related to conditions in scheduled work probably accounts for this. Control of pneumoconiosis is effected by regulation of the physical working environment by the Mining Departments, and through statutory requirements by the Ministry of Mines and Mining Development with its Pneumoconiosis Medical and Research Bureau.

Injuries from occupational accidents form another major hazard. Statistics published by the Copper Industry Service Bureau show 6583 lost shifts per 1000 employees per annum from disease and 1524 from accidents, accounting for about 25% lost time. Specific disease and accident rates among 1970 hospitalized employees were for bronchitis, emphysema, and asthmas of 9.22 per 1000 per annum and mainly industrial accidents of 33.90. Broken Hill Division has a potential lead hazard, controlled by regular medical examinations, blood-lead assays, and environment monitoring. Respiratory protection by using a simple aluminium (Martinelle) mask and thick replaceable cloth filter moulded to the face appears unsatisfactory despite the suggestion that since its use blood lead levels have improved.

No national code of practice exists for protecting persons against ionizing radiation. One, however, has been evolved jointly by the Corporation's Medical and Group instrumentation departments.

Zambian mines, with shafts below 4000 feet, have potential problems of heat stroke and exhaustion. For new underground employees there are acclimatization and induction procedures with refrigeration or air-conditioning in some mines below 2000 feet.

In 1968 the Corporation's Abnormal Haemoglobin Research Unit was established at Rokana Central Medical Laboratory, Kitwe, primarily to survey sickle cell gene distribution and haemoglobinopathies and to study Zambian sickle cell anaemia, a three-year project.

This report gives an impression of an efficient and well-run mines' medical service with a very good public health service for some non-mining communities.

D. J. Thomas


No one can but admire the authority which illumines this book as a whole. It has been written by some 30 contributors, all of whom are experts in the subjects of their respective chapters. Most of the industry's problems are common to all types of mining and most of them are covered. It has been necessary, therefore, to include such diverse subjects as dust inhalation and control, noise, dermatitis, heat diseases, and emergency accident surgery among the many various aspects of medicine and other disciplines, knowledge of which is essential to the protection of the health of the miner. The National