rarely attempted and is sometimes thought to be impossible. However, the Seeböhm Committee described these services as large-scale experiments in ways of helping those in need and emphasized that it was both wasteful and irresponsible to set experiments in motion and to omit the recording and analysis of what happens.

A small randomized controlled trial sought to compare the effectiveness of two methods of social therapy in the treatment of patients with chronic alcoholism admitted to a hospital in Cardiff. On admission 20 patients were allocated at random to receive either (i) 'intensive' social therapy (including visiting the family if the patient was willing) or (ii) the 'routine' treatment. An assessment of benefit, using standard questionnaires and an interview was attempted by a social worker two months after admission to the trial. As the social worker was aware of the method of treatment in each individual case there was a possibility of bias. Another assessment was therefore made 'blindly' by a doctor who was unaware of the details of the two methods. This assessment also included a standard questionnaire and a clinical interview for both the patient and for the patient's family. Questions covered attitudes to alcohol, estimates of the amount of alcohol consumed, and the relationships between the patient, the family, and the treatment unit. In fact there were no important differences between the assessments of the social worker and the independent assessor. The numbers in the trial were small and not all patients were willing to be followed up. The complete assessment of both patient and family was possible in only 12 cases (of the others, four were in the 'intensive' and four in the 'routine' groups). There was no evidence that one method of social therapy was consistently better than the other. The consumption of alcohol during the week before the assessment was similar in the two treatment groups and there were two patients in each group who had abstained from alcohol during this week.

FIFTH SESSION (Chairman: W. W. HOLLAND)

Behavioural Changes in Coronary Patients. MONICA MALLAGHAN (Dept. of Social and Preventive Medicine, Queen's University, Belfast).

The relevance of personality to behaviour changes after a myocardial infarction was tested in a study of patients discharged from two Belfast hospitals. The changes studied were in smoking habits, in diet (indicated by change in weight), and in physical activity. The aspects of personality considered were neuroticism and extroversion, measured by the Eysenck Personality Inventory for extroversion and neuroticism.

In addition it was decided to examine whether behavioural changes after infarction could be related to any of the following factors: (a) medical advice, (b) the patient's view of the severity of the attack, (c) the patient's attitude to the attack, (d) social class, (e) sex.

Over a period of 20 months, 493 patients were successfully interviewed—365 males and 128 females. The mean neuroticism and extroversion scores were expressed in terms of changes in smoking, weight, and exercise. Of the 321 smokers, 12 (4%) increased their smoking, 210 (65%) stopped or reduced, and 99 (31%) made no change.

There were no differences in the mean neuroticism and extroversion scores in these groups. The analysis of change in physical activity showed that 23 (4.7%) increased their activity, 319 (65%) became less active, and 140 (30.3%) made no change. Those who changed, i.e., increased or decreased, had a significantly higher mean neuroticism score (12.2%) than those who did not change (mean score 9.5%). Extroversion scores showed no differences. There were no differences in the neuroticism and extroversion scores of those who changed their weight and those who did not. While there was no indication that personality affected the behaviour changes studied it was shown that advice, attitude, and severity were associated with changes in some instances. Of those who believed smoking to be harmful, significantly more reduced or stopped, as did a significant number of those who had been advised against smoking. There was a general tendency to reduce physical activity.

Children's Smoking. BEULAH BEWLEY (Dept. of Clinical Epidemiology and Social Medicine, St. Thomas's Hospital Medical School, London).

In March 1971, 7,115 final-year primary schoolchildren in Derbyshire (excluding Derby City and Chesterfield) completed a screening questionnaire enquiring into their smoking habits and respiratory symptoms. (This was the first study of this kind in primary schoolchildren in the U.K.). A regular smoker was classified as someone who smoked at least one cigarette a week. An experimental smoker was one who had puffed or smoked a cigarette. A non-smoker was a child who had never smoked. The prevalence rate of regular cigarette smoking was found to be 4.8% and that for experimental smokers was 28.5%.

From the screened population a stratified random sample of 100 smokers was selected. Each smoker was matched (for age, sex, and school class) with an experimental smoker and a non-smoker. Two-hundred and ninety-three children (97 smokers, 98 experimental smokers, and 98 non-smokers) completed a second questionnaire (97% response rate).

Preliminary findings to date include family smoking habits. Thirty per cent of the children who stated that they were smokers, 44% experimental smokers, and 24% of the non-smokers said that both their parents smoked, whereas 6% of smokers, 20% of experimental smokers, and 42% of non-smokers said that neither of their parents smoked. The number of siblings (of both sexes) who smoked and lived in the same house influence the number of children who smoked. Where the smokers had 1, 2 or 3 siblings who smoked the percentages were 18%, 18%, and 15% compared with 7%, 1%, and 0% for the non-smokers. This trend was also observed when siblings of the same sex, who smoked and lived in the same household, were studied. Friends inside and outside school appeared to influence smoking behaviour; 18% of smokers stated that most of their friends at school smoked and 23% of smokers said that friends outside school smoked, compared with 1% and 2% for the non-smokers. Only 7% of the smokers had friends at school

who did not smoke compared with 26% of the non-smokers.

It was found that the smokers started smoking earlier than the experimental smokers. Seventeen per cent of smokers had puffed their first cigarette before the age of 7 compared with 6% of the experimental smokers. When asked why they thought children of their own age did not smoke, all groups gave 'parents advised against it' and 'because of health reasons' as the first two reasons. The non-smokers gave 'that it was a dirty habit' as their third reason and this differed from the other two groups. The smokers viewed smoking much more positively than the non-smokers and most of them felt that smoking was enjoyable, gave more adult status, and that it was pleasant to smoke with one's friends.

The Home Care of the Highly Dependent Patient. P. PASKER, J. S. A. ASHLEY and J. CRESSWELL (*Dept. of Public Health, London School of Hygiene and Tropical Medicine*).

The objectives of the studies discussed in the paper were: (1) to develop nursing dependency as an indicator of use which can be employed both in institutions and in the community to measure the matching of skills to needs; (2) to examine the social and economic circumstances of patients with high levels of nursing dependency who are receiving their nursing care in a non-institutional setting, i.e., at home. The nursing dependency measure had already been validated in hospitals by Barr; it had not, however, been used in a community setting and so had to be adapted accordingly. Validation studies carried out showed that the modified version still remained valid in an institutional setting. A feasibility study was, therefore, carried out in a clearly defined area using this measure as a cross sector indicator of nursing use; there were 320 recipients of local authority health and welfare services and hospital in-patient care. This showed that 44% of high care patients were being nursed at home. As the amount of statutory nursing services which this group received was much less than that given to comparable institutionalized cases, the magnitude of the role played by relatives in support of this group was underlined. A further pilot study was carried out, designed more specifically to test a questionnaire relating to the social and economic circumstances of this high-care group in the community. This study examined in depth 45 high-care cases located on the case loads of home nurses and a geriatric health visitor.

Mortality among Workers at Two Copper Works where Cadmium was in Use. JOAN M. DAVIES (*Royal Marsden Hospital and Institute of Cancer Research, Fulham Road, London*).

In 1955 and 1959 Bonnell *et al.*^{1,2} reported that numerous workers exposed to cadmium oxide fume in the production of copper-cadmium alloys were found to have proteinuria and/or disabling emphysema. Only two deaths from the renal form of chronic cadmium poisoning appear to be on record in this country, and the respiratory form is considered to be of greater import.

In 1967 Kipling and Waterhouse³ reported an excess of cases of carcinoma of the prostate (0.58 expected, 4 observed) among cadmium workers in another industry; no further reports on this possible association appear to have been published.

During a survey conducted for other reasons death certificates were scanned for all residents of a rural district where two copper works were situated, including one of the factories studied by Bonnell. The opportunity was taken to abstract details of all the 700 deaths from 1948–70 of men described on their certificates as copper workers; deaths during 1941–7 will be added later. Only a minority was likely to have been exposed to cadmium; these could to some extent be distinguished by the occupation descriptions 'caster' or 'furnaceman'.

The series of 700 deaths was analysed by a proportional mortality technique; the proportional distribution of causes of death was generally similar to the national distribution. Seven deaths were ascribed to chronic cadmium poisoning and four other certificates mentioned the condition as a contributory cause. Bronchitis and/or emphysema were mentioned most frequently on the certificates of men described as casters or furnacemen. There appeared to be no excess of deaths from neoplastic diseases, from carcinoma of the lung, or from carcinoma of the prostate (9.8 expected, 10 observed). The expected number of deaths from nephritis and nephrosis was 5.3 and 15 were observed, the excess being concentrated during 1948–56; four more such deaths have so far been noted during 1941–47. Three of these 19 men were described as furnacemen, and these findings suggest the possibility that unrecognized deaths from the renal form of chronic cadmium poisoning may have occurred among this group of workers.

- (1) Bonnell, J. A. (1955). Emphysema and proteinuria in men casting copper-cadmium alloys. *Brit. J. industr. Med.*, 12, 181.
- (2) Bonnell, J. A., Kazantzis, G. and King, E. (1959). A follow-up study of men exposed to cadmium oxide fume. *Brit. J. industr. Med.*, 16, 135.
- (3) Kipling, M. D., and Waterhouse, J. A. H. (1967). Cadmium and prostatic carcinoma. *Lancet*, 1, 730.

SIXTH SESSION (*Chairman: G. BOURKE*)

Malignancy in Crohn's Disease. Mrs. P. PRIOR (*Dept. of Social Medicine, University of Birmingham*).

A series of 295 patients, treated at the General Hospital, Birmingham, for Crohn's disease, has been followed up by one consultant for over 30 years. Periods of observation ranged from 34 years in one case to at least one year for those patients with a recent diagnosis, giving in total more than 4,000 patient-years of observation.

The pattern of malignancy was examined in this series, evidence for which was obtained from the patients' clinical records as well as the index of the Birmingham Cancer Registry.

Expected rates for malignant tumours were computed from cancer registrations and census population figures for the Birmingham region. Expectations, for grouped and individual sites, were obtained and compared with the observed number of tumours at these sites.