SOCIAL MEDICINE

A STUDY OF THE FIRST HUNDRED PATIENTS OF A UNIVERSITY DEPARTMENT OF INDUSTRIAL HEALTH

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The first report of the Nuffield Foundation (1946), referring to the subject of industrial health, states that:

Industrial hazards and diseases, which hitherto have claimed most attention, do not constitute the whole of the subject. . . . departments of industrial health should be closely allied with whatever organization the universities should establish for the study and teaching of social medicine. Industrial health is one of the most potent, if still mainly potential, executive branches of social medicine.

It is timely now to ask what kind of problems are encountered in the routine practice of a department of industrial health in an area of heavy industry; how does it deal with them, and how does the practice compare with the precepts already laid down (Browne, 1947).

METHODS

When clinical work was started a circular was sent out under the joint auspices of the university and its teaching hospital to all general practitioners in the North-East Hospital Region. This drew their attention to the formation of the department, and pointed out that it would receive cases of medical industrial disease (with the exception of skin conditions) scheduled under the Workmen's Compensation Acts, together with any other medical conditions in the causation of which the nature of the patient's work was thought to have played a part. It was difficult to forecast the response to this circular, but it was thought wiser to aim at one which would be too small rather than too big, hence the rather narrow drafting of the notice.

An out-patient clinic was instituted in a suite of three communicating rooms, two for the clinicians who see patients simultaneously, and the third for the social assistant. The patients see the doctor first and then the social worker, because they expect to start by telling a doctor about their symptoms,

and until they have done this they are not ready to discuss their social difficulties. Also, the social worker would have to take her social history blindfold if she had no indication of the clinical and industrial histories and their possible implications. The clinical and industrial notes and the social summary were designed, and are kept, as a whole inside one folder. Letters are written to the patients' doctors by the clinician and have references to these three divisions of the whole problem. Management is decided jointly between clinician and social worker, and since both are members of the same department, formal case conferences are unnecessary.

The same principles guide the in-patient work, which is done in the Department's own beds within the main division of medicine, with which there is the closest connexion.

Full details of a single case history will serve to illustrate the scope of the information recorded.

Mr. A.B., aged 34 years, had noticed for the last three weeks increasing weakness of the right hand, which had become stiff, clumsy, and useless. He had had "stomach cramps" and constipation for one week.

For the last 20 months he had worked as a plate paster in a lead battery works. He had also been weighing dry red lead powder and then mixing it with distilled water and sulphuric acid to form a paste. His previous occupations were: age 14-28, plasterer's labourer; age 28-32, in Army (Royal Engineers).

Physical examination showed him to be a pale, thin man, with a bilateral congenital ptosis more marked on the right. Wasting and weakness of the muscles of the right hand, forearm, arm, and shoulder were observed, and right wrist drop. Sensation was absent over the right hand and forearm, with "evening glove" distribution present over the arm. Examination disclosed no other abnormality. Blood examination gave a red cell count of 3.95 mill. per cu.mm.; Hb. 71 per cent.; colour index: 0.9.

His social history was that he was born in Newcastle-upon-Tyne, son of a regimental sergeant major who

became under-manager of a lead works. After marrying at 24, he shared a house with his cousins and later with his in-laws, with whom he is still living together with his wife and three children. His employer's comment was that he was one of his best workmen.

He had been earning up to £7 10s. per week until he became ill, but as soon as he stopped work his wage ceased. Sickness benefit was not paid, as there was a question of workmen's compensation. His wife had to apply for Public Assistance until the compensation claim was settled. He was a nervous man, unsure of himself and easily upset by any suggestion that he might be malingering. Controversy over compensation and repeated examinations by different doctors in this connexion made him increasingly introspective and preoccupied with his illness.

The patient's factory was visited; it employed only six men, and was established during the 1939-45 war in old accommodation. His job was to spread a red lead and sulphuric acid paste on to a solid lead grid about 9 in. square. Rows of pasted grids were wrapped in paper and taken into the "drying room," which was merely an area of the main workshop in which there was a coke stove. When dry, each plate was broken in half to form two small ones. The plates were then packed in boxes. In a corner was a small milling machine for trimming the plate lugs, and although this was under an exhaust ventilation hood, a quantity of the metallic lead dust came out into the main workshop. The workshop was dry-swept, and the red dust of lead oxide could be seen lying on the lampshades and ventilators. On coming to work in the morning, a man took his dusty overalls out of a locker and put in his coat, thereby transferring lead oxide dust from his work to his home clothes.

The clinical diagnosis was, therefore, lead poisoning with hysterical anaesthesia of the right arm. The social diagnosis was loss of earnings, change of employment, and compensation difficulties, and the industrial diagnosis a slum factory with inadequate management and hygiene.

The patient was managed by treatment with bed rest for two weeks, followed by one week's retraining. A high calcium diet with vitamin D and ferrous sulphate was given. The right wrist was splinted in the "cock-up" position, and then increasingly active exercises were given to the affected hand and arm.

While he was in hospital, the Disablement Rehabilitation Officer from the local employment exchange was asked to see him, as the risk of further contact with lead made it unwise for him to return to any job in the firm where he had previously worked. Before he started work legal advice about his compensation was obtained. He was then found work by the Ministry of Labour in a clothing factory. Here he took messages, swept the floor, and tied up parcels, and with wages and partial compensation his income was £5 10s. per week.

He was receiving compensation under the old Workmen's Compensation Act, and after six months the insurance company raised the question of a lump sum settlement. The complications which followed were most perplexing to the patient, and no final settlement

was made. Weekly payments were continued for 11 months, and then discontinued on the grounds that the disability was no longer the result of lead poisoning. The patient's income was thus reduced to £4 per week. He still maintained that he could not use his hand for heavy manual work, and he had been obliged to refuse an attractive and better paid job for this reason. He felt that he had been unjustly treated, and decided to take the case to court. The final results of this unfortunate medico-legal controversy remain to be seen. Meanwhile, the patient is being encouraged to take a practical and unemotional view of his difficulties.

During the earlier stages of his illness he needed a good deal of help from the social worker, but the support which was given to him then was gradually withdrawn. As his self-confidence increased, he became able to take the initiative in dealing with problems for himself, and his morale has improved during the last few months.

Two unofficial visits to the patient's former factory by the departmental staff and an official visit from the factory inspector, led to improvements in the level of hygiene. These were first shown by improvements in the clothes locker system, together with greater attention to floor damping and cleanliness.

OCCUPATIONAL GROUPS

Sixty-nine per cent. of the patients were coal miners, usually coal face workers or men who had been face workers, but for various reasons, often dyspnoea, had changed to less strenuous odd jobbing work paid at a daily rate. One patient had mined lead, and another ironstone. Four men worked in foundries, and there were two arc welders and three lead workers (one pasting batteries, and two smelters). There were also four tar workers. The remaining 16 men were engaged in various occupations which ranged from baker to bus conductor, and included a trinitrotoluene worker, a plumber's mate, a steel erector, a coke worker, and a phenol worker (Table I).

TABLE I
ANALYSIS OF OCCUPATIONS

Occupation				No. of Cases
Mining				
Coal	..	..	69	
Lead	..	..	1	
Ironstone	..	..	1	
			—	71
Lead workers	..	..	..	3
Tar workers	..	..	..	4
Foundry men	..	..	..	4
Arc welders	..	..	..	2
Various trades	..	..	..	16
				100

TABLE II
ANALYSIS OF TYPES OF ILLNESS IN THE SERIES

	Type of Illness	No. of Cases	Totals
<i>Chest</i>	Pneumoconiosis of coal miners (1 with pulmonary tuberculosis and 1 with miners' nystagmus)	21	57
	Siderosis	2	
	Silicosis (1 with pulmonary tuberculosis)	2	
	Pulmonary tuberculosis	5	
	Chronic bronchitis and emphysema	23	
	Other chest conditions	4	
	Pulmonary oedema, following shot firing	1	
	Carcinoma of bronchus	1	
	Spasmodic asthma	1	
	Acute bronchiolitis, following exposure to metal fume	1	
<i>Intoxications</i>	Trinitrotoluene	1	15
	Lead	3	
	Carbon monoxide (9 industrial, 2 other)	11	
<i>Dermatological</i>	Tar (2 dermatitis, 2 epitheliomas)	4	6
	Various	2	
<i>Miscellaneous</i>	Psychiatric	7	22
	Cardiovascular	6	
	Miners' nystagmus	2	
	Various conditions	7	
			100

MEDICAL PATHOLOGY

Diseases of the chest were found in 57 per cent. of the men (Table II). Of these, pneumoconiosis of coal miners (21 per cent.) and chronic bronchitis (23 per cent.) were by far the commonest conditions diagnosed. All the cases of coal miners' pneumoconiosis were in coal face workers, and the radiological changes which they presented are similar to those described by Hart and Aslett (1942) and more recently by Davies and Mann (1948), whose method of classification has been used. Sixteen men had simple and five complicated pneumoconiosis (Table III). Two cases of silicosis were seen, one of the nodular type in a steel dresser, and the other in a lead miner with complicating open tuberculosis. In both these cases the diagnosis was confirmed at autopsy. There were also two arc welders in whom there were radiological changes suggesting siderosis. In 23 men there was a diagnosis of chronic bronchitis and emphysema, with varying degrees of disability. These were also mostly face workers in coal mines who had been referred to us primarily to exclude pneumoconiosis. Their average age was 54 years, compared with an average age of 51 years in those with pneumoconiosis. Of other chest conditions seen, there were five cases of pulmonary tuberculosis without

any occupational hazard complicating it, and one case each of bronchial carcinoma, spasmodic asthma, acute bronchiolitis following exposure to metal fume, and pulmonary oedema following shot firing.

TABLE III
PNEUMOCONIOSIS OF COAL MINERS (CLASSIFIED ACCORDING TO DAVIES AND MANN, 1948)

Type	Category	No. of Cases
Simple	1	6
	2	3
	3	7
	4	0
Complicated	A	0
	B	3
	C	1
	D	1
		21

Industrial poisoning, mainly by carbon monoxide, occurred in 13 patients, eight of whom were miners admitted following underground explosions, and one a man who had been working on a gas main. Lead intoxication was found in three men, two of

whom were engaged in smelting, and the third in battery pasting. One man, a T.N.T. worker, was thought to have a toxic gastritis. There were no fatal results in all these men.

We have not set out to treat skin conditions, but a few (six cases) have been seen, including two of epitheliomata in tar workers. A group of seven men in whom the main complaint appeared to be a psychological disorder, were included in the first 100 patients seen, and were reassured or referred elsewhere for specialist treatment.

Six patients were found to have disorders of the cardiovascular system, all coal miners except one, and all elderly apart from a miner of 35 years with mitral stenosis. Miners' nystagmus was seen in three men, one of whom had a pneumoconiosis for which he had been fully compensated, and whose capacity for work was greatly limited by that alone.

Finally, there were seven men in whom various conditions were found: chrome ulceration of the nasal septum, chronic nephritis, blepharitis, chronic naso-pharyngitis, laryngeal fibroma (in each case unrelated to occupation), a resettlement problem, and one fit man who had been suspected of having pneumoconiosis.

SOCIAL PATHOLOGY

The most frequent clinical conditions seen were chronic bronchitis, coal miners' pneumoconiosis, and cases of gassing, and it is of value, therefore, to trace the relation of social to medical pathology in those conditions.

The commonest and most important social problems found among adult patients are material difficulties connected with employment, income, housing, and domestic care, and the emotional difficulties which may complicate them (Beck, 1947). The number and severity of these difficulties among any group of patients depends on the length of the illness and the amount of disability which it causes. A clear-cut illustration of this may be seen in Table IV, where the patients with diseases of the chest and those with carbon monoxide or other gas poisoning have been separated from the rest of the series. The patients with chest diseases were not acutely ill, few of them could benefit from medical treatment, and many of them seem from a narrow clinical viewpoint to be rather uninteresting. But from a social point of view their pathology was sometimes acute and often highly complex, and they formed an unusually interesting group. The men who had been overcome by gas poisoning were very ill and were in urgent need of skilled medical treatment, but they made rapid and complete recoveries. Their social difficulties were minimal,

and no social treatment was needed. The only exception to this was an attempted suicide whose social problems had been the cause, and not the result, of his carbon monoxide poisoning.

TABLE IV*
EFFECTS OF ILLNESS ON SOCIAL BACKGROUND

Disease	Degree of Social Difficulty				
	None	Minor	Serious	Unknown	Total
Pulmonary ..	3	10	39	3	55
Gas poisoning ..	10	2	1	0	13
Other ..	8	8	13	3	32
Totals ..	21	20	53	6	100

* In this and later tables one patient with bronchiolitis and one with pulmonary oedema, both of whom were overcome by fumes while working, have been included in the gas poisoning group, and not among diseases of the chest.

Problems have been classed as serious when some drastic alteration of the social background was caused by the illness or became necessary as a result of it, or when help was needed to avert hardship and anxiety. When the social impact of illness can be met without assistance and does not involve difficult readjustments for the patient or his family, any problems which are present can be classed as minor ones. Thus, changing his job is a serious matter to a patient if he cannot find suitable work without help, or if the change means a big drop in income. If he is able to find a new job himself at a rate which compares reasonably well with what he got before, this is regarded as a minor problem. In the present series of men, most of whom were earning high wages, the economic effects of illness were not rated as serious unless income was reduced by more than 25 per cent. Pre-existing social problems which might have precipitated illness or complicated its results were so uncommon that they have not been listed separately.

Most of the patients were wage earners with family responsibilities, and the need to change or to cease work often caused a complete dislocation of their own and their families' lives. Table V, which shows what happened to the men as workers, gives little more than a hint of what it meant to them as complete human beings. Less than 40 per cent. of the whole group were able to return to their original jobs, and scarcely more than 20 per cent. of those with diseases of the chest were able to do so. Those who changed their jobs were better off than those who remained idle, but most of them had their income permanently reduced. For the men

with chest diseases, most of whom were coal face workers, the change usually involved a weekly drop in income from £8 or more to £5 or less. To men in their forties and fifties, who had worked hard for a mere pittance during the lean years, it came as a particularly hard blow to have to give up their work now when it was well paid. Nor was the economic hardship the only one, for the change often resulted in a serious waste of human material. One man of unusual intelligence and ability, who had been hoping to send one of his children to a university, had worked underground as a deputy, a highly responsible post. He could get no work at all through the Ministry of Labour, and ended up by making clay plugs for shot firing, a type of work suited to the lowest grade of manual worker.

TABLE V
EFFECT OF ILLNESS ON WORK: TOTAL SERIES

Disease	Work			Re-tired	Died	Un-known	Total
	Same	Chan-ged	Idle				
Chest	12	15	19	3	3	3	55
Gas poisoning ..	12	1	0	0	0	0	13
Others	11	11	4	3	0	3	32
Totals	35	27	23	6	3	6	100

The more detailed analysis in Table VI suggests that men with chronic bronchitis are better off than those with pneumoconiosis as regards getting back to work. Although the figures are small, they illustrate certain differences. Men who had been certified as disabled by pneumoconiosis were legally debarred from returning to underground work, or indeed to any work around the mine apart from a few non-dusty surface jobs, and these often required more physical effort than some of the jobs away from the coal face underground. The only men with pneumoconiosis in this series who remained in their old jobs were two who preferred not to take the economic risk involved in making a claim for compensation, and one who was certified as having the disease, but not disabled by it. In such cases, a man was allowed to choose whether or not he would accept the verdict. If he accepted, he would get half wages for a limited time, but would be debarred from going back to mining, although not entitled to any further compensation. This man's decision to continue at work underground seemed sensible enough in the circumstances, but it is worth noting that his union advised him most strongly against it, and only a determined and level-headed man would have persisted in such a course. The question of changing their work did not arise for men with chronic bronchitis with

similar symptoms, and those who were partly disabled could often get less strenuous work below ground. This is reflected in the larger number of men with chronic bronchitis (Table VI) who were able to get different work without changing their employer. Under the new regulations for pneumoconiosis compensation, a different policy about suspension from mining may level out some of these differences in the future.

TABLE VI
EFFECT OF CHEST DISEASE ON EMPLOYMENT

Disease	Same	Employment Changed		Idle	Re-tired	Died	Un-known	Total
		Same Em- ployer	Differ- ent Em- ployer					
Pneumo- coniosis	3	2	4	10	1	0	1	21
Chronic bronchi- tis	6	9	0	5	2	1	0	23
Other chest condi- tions	3	0	0	4	0	2	2	11
Totals ..	12	11	4	19	3	3	3	55

For the miners who could not continue in under-ground work, the situation was similar whether they had pneumoconiosis or chronic bronchitis. If anything, the bronchitics might be worse off, since some priority was given to "compensation cases" in allocating the few available surface jobs. When the colliery had nothing to offer, the prospects of getting back to work were poor. These men were considered too old to be accepted for training by the Ministry of Labour, even if they could have been placed in their own districts when trained. Besides, mining was a way of life to most of them, so that the thought of leaving it struck at the very roots of their communal existence. In any case, the plain fact was that alternative work could seldom be found in the districts from which they came. One chronic bronchitic had already been on the books of the Ministry of Labour for three years, and he was an intelligent and stable man who was fit for any form of reasonably light work.

One of the four men with pneumoconiosis who got work with other employers was the deputy mentioned above who was employed in making clay plugs, and one man was able to get work as a night watchman. The two others were younger men of unusual initiative, one of whom lived within travelling distance of a trading estate and found work there, and the other was taken on by his local council as a park and beach attendant. The last

appointment may not have been altogether wise, as the duties included life-saving on a part of the coast where bathers often get into difficulties, but the patient managed his first summer season satisfactorily and hopes later to be relieved of this part of his responsibilities.

None of the patients with gas poisoning needed to change his job, except for the attempted suicide. Among those with other diseases who needed to change was a group of three men with lead poisoning and one with T.N.T. poisoning. Only one of these, a leadworker with severe wrist drop, had much difficulty in finding suitable work, and the final effect on income of changing their jobs was not serious for any of them. In the whole series, no patient who was physically and mentally fit for work failed to get a job, except in the groups with pneumoconiosis or chronic bronchitis.

Seventeen out of the 27 men who changed their jobs did so successfully by their own efforts. Seven more were able to get suitable work after we had approached their employers, and three had jobs found for them by the Ministry of Labour. Nine other men had been referred to the Ministry of Labour for resettlement, but five of these are still idle, and the other four eventually found jobs for themselves. Ten patients with pneumoconiosis and five with chronic bronchitis are still not working at a period from nine months to two years after they were first seen. Special attempts were made to find work for three of the men with pneumoconiosis, and three others were well enough to be signed on at the employment exchange, although they had no hope of getting work. Unsuccessful attempts were also made to find work for four of the bronchitics. Two men with pneumoconiosis and one with chronic bronchitis were probably unfit for anything except some form of home occupation. Two other men with pneumoconiosis were primarily disabled by other conditions, one by miner's nystagmus and the other by long-standing peptic ulceration.

There was not much to choose between the unemployed men with pneumoconiosis and those with chronic bronchitis as regards fitness for work, but the tendency was for the bronchitics to be rather worse off in this respect, and the social results were often more serious.

The average weekly income of the men who were unable to return to work was about £2. Individual amounts might be as little as 10s. 6d. a week for a man whose national health insurance payments had been reduced. They might be as much as £3 or over for men who were drawing unemployment benefit and partial compensation, or whose sick benefit was being supplemented by public assistance.

As even full compensation at that time was little over £2 per week, the advantage of the men who could be compensated over those who could not was small. Under the new rates of insurance and compensation, both classes of men will benefit, but the economic difference between being disabled by pneumoconiosis or by chronic bronchitis will become more marked. In certain circumstances a man compensated for total disablement by pneumoconiosis under the new Act might get as much as he would in a light job, but the man with chronic bronchitis will only get half this amount.

Throughout the present series, men avoided application for public assistance whenever this was humanly possible, and when savings were exhausted after long absence from work, contributions from children, the earnings of wives, or help from relatives often tided the family over. A drastically lowered standard of living and the sacrifices of his family often added to the patient's depression and feeling of uselessness. It was this sense of being "on the scrap heap" and of no further use either to their families or to the community, which broke the men's spirits and caused the greatest suffering to all concerned. The men with bronchitis in the present series were affected in this way more seriously than those with pneumoconiosis.

Contrary to what might have been expected, not one of the patients with pneumoconiosis became preoccupied with compensation. The legal aspects of their illness caused some disturbance in two of the men with lead poisoning, but this did not seriously hinder their return to work. More serious compensation disturbances were found among unstable patients who had not got industrial diseases carrying compensation, but who persisted in blaming the work for their illness. Two men in particular illustrated the unfortunate results which well-meaning people, doctors as well as laymen, may produce by encouraging such an attitude. One of these men was an arc welder with siderosis, and the other operated a grinder in a machine shop and now has pulmonary tuberculosis. Neither had valid ground for claiming compensation, but both had been encouraged to embark on litigation and to fight losing battles until they had become so obsessed with their grievances that they were permanently unemployable.

In the present series, which contained a high proportion of intelligent and stable men, compensation claims had no adverse emotional effects, provided that they could be settled quickly and definitely. It was noticed that a successful claim often improved morale without removing the incentive to get back to work. Men seemed to feel

that any implication of personal failure in becoming ill was removed if responsibility for their breakdown was admitted by the industry, and they also felt that to some extent at least justice had been done. The men with chronic bronchitis often believed that their trouble must really be caused by the dust, and they felt that they were unjustly treated because they could not claim compensation, or continue to receive free coal, or remain indefinitely in their tied colliery houses, as the men with pneumoconiosis normally could. Emotional disturbances which resulted from physical incapacity and were severe enough to affect the men's behaviour and to throw added strain on their wives and families were seen in five men with chronic bronchitis and one with pneumoconiosis. It is a tribute to the tough moral fibre of the group as a whole that these were the only men affected to such a marked degree. The most impressive finding was the resilience with which so many men disabled by one or other of these diseases made the best of extremely unpleasant situations. Whenever it was possible to help them we felt that they were particularly well worth helping because they did so much to help themselves.

Twenty per cent. of the patients needed casework, and this usually involved one or more visits to their homes, and sometimes visits to employers as well. Fifteen per cent. needed simpler forms of help, but the rest could manage their own social and industrial affairs, and only needed advice and information.

• DISCUSSION

The main medical and social problem in this hundred patients is the emphysematous and dyspnoeic coal miner, with pneumoconiosis and chronic bronchitis as the chief associates of the emphysema. Acute carbon monoxide poisoning and psychological disease form two equally common groups. The three cases of lead poisoning and the single case of chrome ulceration of the nasal septum related in each case to small factories (which were visited) with low standards of environmental hygiene. A diagnosis of pneumoconiosis in a man who was not severely disabled was more serious socially than one of chronic bronchitis, because such men were legally prevented from working underground or in any work in coal mining, apart from a few non-dusty, surface jobs. This often meant forced unemployment because in a pit village mining is the only available work. More elastic legislation combined with the establishment and dispersal of light employment (other than coal mining) in the villages, as well as in any new towns which may be built, will considerably lessen the social effects of chronic chest disease in coal miners in this area.

Both the medical and social results of industrial illness differ only in points of detail from other medical diseases, and successful management, as opposed to the narrower conception of "treatment," stands or falls with the unity of the medical and social team, and with the success of this team in securing the co-operation of the patient and of his home environment.

The amount of work involved in social management depends not so much on the severity of the problems as on their complexity. A single difficulty can often be dealt with by simple means. Reference to public assistance (or the Assistance Board as it would be now), a letter to an employer, even a full discussion with the patient and some advice or information, may be all that is needed to prevent serious trouble. In a complex problem a number of separate difficulties react on one another in such a way that the treatment of any one of them must take into account its effect on all the others. It is not sufficient here to refer the patient to one or more of the official bodies concerned with particular forms of help, such as financial assistance or rehabilitation. If there is a chance of improving the situation, it can only be done by the individual approach and intensive methods of social casework.

Close integration of clinical and social work made it possible for the patient's management always to be considered as a whole, and there was no risk that the patient would be given conflicting advice by clinician and social worker. It was much more difficult to continue this integration outside the hospital walls. However suitable the plan of action which clinician and social worker helped the patient to evolve, it might miscarry from the start unless it also had the approval of the patient's family, his employer, his trade union officials, and his private doctor. To secure this was a task which sometimes required much time and patience.

To compare the clinical practice with the precept (Browne, 1947), less home visiting has been necessary than was originally visualized, and when assessing physical hazards to health it has been found better that the clinician should do any industrial field visits either himself, or with the social worker, rather than that the latter, with her essentially non-technical background, should go alone. She does, however, visit employers independently to discuss with them the resettlement of patients whose working conditions are already known. No difficulties have been encountered in visiting either homes or works, and this may be ascribed to the fact that the visitors are representatives of an independent university department and have a therapeutic relationship with the patient.

SUMMARY

The medical, social, and industrial problems of the first hundred patients of a university department of industrial health are described.

Sixty-nine per cent. of the patients were coal miners, and the remaining 31 per cent. covered a wide range of occupations.

One-third of the coal miners seen had chronic bronchitis and emphysema, and about another third had pneumoconiosis. Carbon monoxide poisoning and psychological abnormality were the next commonest diagnoses.

The social pathology varied directly with the

length of the illness and with the disability caused. Loss of earnings, together with the difficulty of obtaining lighter work, were the two most important social findings.

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