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# The Lincolnshire Rehabilitation Scheme

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## Introduction

Industrial rehabilitation of mentally ill patients was pioneered by Early in his highly successful Industrial Therapy Organization at Bristol. In this organization patients are first industrially trained in the hospital and then progress to a training factory situated in the community.

The scheme which is the subject of this report, however, was designed to show that chronic mental patients can achieve successful rehabilitation outside the hospital. It was instituted jointly by St. John's Hospital, Lincoln, and the firm of Richard Thomas and Baldwin at their Redbourn Works at Scunthorpe. Their employment was made possible by the co-operation of the patients themselves, the community, the works management, the trade unions, the works medical department and the hospital staff.

All the patients in the hospital receive the appropriate medical treatment in addition to a social and occupational training designed both to revive their self-confidence and to foster their confidence in the hospital staff and the rehabilitation schemes organized for them. This training is similar to that now being practised in many mental hospitals in this country. This is the usual framework within which the patient is given confidence to step back into society. There are some patients, however, who hitherto have not been considered capable of supporting themselves outside the hospital. This group includes chronic schizophrenics, slowly maturing psychopaths and inadequate personalities of all the more severe neurotic types. If care is taken in the selection of patients for rehabilitation and if the process is a gradual one then many more chronic patients can make an economic contribution to the community.

## Method of Selection

The initial selection of the patients was made on the basis of their ability to undertake the various forms of employment available in the hospital, work in occupation therapy centres, the various departments and the industrial rehabilitation unit.

At the beginning of the scheme (December, 1963), the majority of patients suitable to undertake it were adjusted and compensated schizophrenics. Their beds were then filled by new patients, many of whom were psychopaths, whose stabilization appears to take an equally long period—they are only now reaching a comparable stage of rehabilitation.

At a later stage of the scheme, 23 patients from Saxondale Hospital and 13 patients from Rauceby Hospital were also employed at Redbourn.

### *Diagnostic Categories*

Table I shows the diagnostic categories of the patients employed in the scheme; the diagnostic criteria used were the standard clinical assessment using signs and symptoms.

### *Mode of Employment at Redbourn*

The patients were employed in a total of 23 different types of work ranging from a graduate process chemist to welfare janitors. As the majority had not received an approved training, they had to be employed as labourers of various types. Twenty St. John's patients, 18 from Saxondale and 5 from Rauceby were employed in the blast furnaces.

Only three patients had to be moved from their first placing to a different type of work. This indicates both the adaptability of the patients and the efficiency with which the Industrial Labour Officer and the Hospital Rehabilitation Officer were able to select the patients for the various forms of work.

### *Degree of Chronicity of the Patients*

*Age.* Patients' ages ranged from 20 years to 62 years, with an average age of 40.

TABLE I

*Diagnostic Categories of Patients Employed at Redbourn*

| | St. John's Hospital | Saxondale Hospital | Rauceby Hospital | Total |
|---|---|---|---|---|
| 1. Schizophrenia .. .. .. | *52 | 23 | 9 | 84 |
| 2. Paranoid states .. .. | 6 | — | 1 | 7 |
| 3. Psychopaths .. .. .. | 4 | — | — | 4 |
| 4. Inadequate personalities .. | 6 | — | 2 | 8 |
| 5. Epilepsy .. .. .. | †5 | — | — | 5 |
| 6. Organic states .. .. .. | 2 | — | 1 | 3 |
| 7. Subnormal .. .. .. | 2 | — | — | 2 |
| 8. Alcoholics .. .. .. | 2 | — | — | 2 |
| Total .. .. .. .. | 79 | 23 | 13 | 115 |

* Seven of these also classified as subnormal.
† Two of these also classified as subnormal.

*Duration of Illness.* To avoid the difficulty of assessing an insidious onset, we have taken the first known admission to hospital as the "onset". This usually represented the moment when the patient's symptoms became intolerable to himself or to his relatives.

TABLE II

*Duration of Hospitalization of St. John's Hospital Patients from First Admission in Hospital to Entry into the Redbourn Scheme*

| | | | % |
|---|---|---|---|
| Under 3 months | 9 | | |
| 3 months–6 months | 4 | 19 | 24 |
| 6 months–1 year | 6 | | |
| 1 year–2 years | 8 | | |
| 2 years–3 years | 5 | 26 | 33 |
| 3 years–5 years | 13 | | |
| 5 years–10 years | 11 | | |
| 10 years–15 years | 11 | | |
| 15 years–20 years | 8 | 34 | 43 |
| Over 20 years | 3 | | |
| Not known | 1 | | |
| Total | 79 | Median 7·8 years | |

The length of time that the patients had not been remuneratively employed before entry to the scheme was now examined.

TABLE III

*Length of Time Patients had not been Remuneratively Employed Before Entry into Scheme*

| | | | % |
|---|---|---|---|
| Under 3 months | 18 | | |
| 3 months–6 months | 11 | 36 | 45·5 |
| 6 months–1 year | 7 | | |
| 1 year–2 years | 10 | | |
| 2 years–3 years | 10 | 24 | 30·4 |
| 3 years–5 years | 4 | | |
| 5 years–10 years | 4 | | |
| 10 years–15 years | 6 | | |
| 15 years–20 years | 6 | 19 | 24 |
| Over 20 years | 2 | | |
| Not known | 1 | | |
| Total | 79 | Median 4·9 years | |

The stability of employment in the year before breakdown was next considered. This indicates the onset of the illness before breakdown.

TABLE IV

*Stability of Employment in the Year before Breakdown*

| | |
|---|---|
| Employed stably .. .. | 21 |
| Employed erratically .. .. | 44 |
| Unemployed or employment record not known .. .. | 14 |
| Total .. .. .. | 79 |

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*Accommodation of Patients*

The accommodation and transport problems are illustrated in the next Table.

TABLE V
*Accommodation of ex-Hospital Patients*

| Location | Year 1965 | Year 1966 (to 31.8.66) |
|---|---|---|
| Daily Travel from Lincoln .. | 10 | 14 |
| Town Lodgings .. .. | 8 | 13 |
| Works Hostel .. .. | 67 | 48 |
| Total .. .. .. | 85 | 75 |

The patients travelled in a hospital bus which was also used by patients going to other work in Scunthorpe.

The hostel is situated within the works grounds.

*Supervision of the Patients*

The medical department staff at Redbourn consists of a full-time industrial Medical Officer and seven nurses. They provide a 24 hour service. The patients' medication was continued as previously established. The patients were supervised by the Works Medical Officer and the Hospital Rehabilitation Officer who visited the works weekly. The patients were seen at the local Out-patient Clinic regularly and also if requested by the Works Medical Officer.

## RESULTS

The patients are now compared for turnover, reliability and productivity. (Table VI)

TABLE VI
*Length of Time the St. John's Hospital Patients were Employed*

| | Still employed | Returned to hospital | Other job | Left for other reasons | Total left | Total employable period |
|---|---|---|---|---|---|---|
| Under 3 months .. | — | 12 | 1 | 2 | 15 | 15 |
| 3–6 months .. .. | 4 | 3 | — | 1 | 4 | 8 |
| 6–9 months .. .. | 4 | 4 | 2 | — | 6 | 10 |
| 9–12 months .. .. | — | — | — | 2 | 2 | 2 |
| 12–18 months .. | 10 | 4 | 1 | 1 | 6 | 16 |
| 18 months–2 years .. | 16 | 1 | — | 1 | 2 | 18 |
| Over 2 years .. .. | 9 | 1 | — | — | 1 | 10 |
| Total .. .. | 43 | 25 | 4 | 7 | 36* | 79 |

* 2 died of coronary thrombosis.

TABLE VII
*Follow-up Study in Patients Returned to St. John's Hospital from Redbourn by 31st August, 1966*

| | Employed outside hospital | Employed in hospital or R. T. & Baldwin | Unemployed | Ill |
|---|---|---|---|---|
| Schizophrenia .. .. .. | 4 | 4 (3)* | 2 | 2 |
| Paranoid State .. .. .. | 2 | 2 (1)* | — | — |
| Psychopaths .. .. .. | 1 | 1 | 1 | — |
| Epilepsy .. .. .. | 1 | 1 | — | — |
| Neuroses .. .. .. | — | 1 | 1 | — |
| Alcoholism .. .. .. | — | — | 1 | 1 |
| Total .. .. .. | 8 | 9 | 5 | 3 |

* Patients who had returned to full employment at Redbourn, travelling daily on the bus.

From this it can be seen that 43 patients, or 54 per cent., were still employed remuneratively at the end of the elected period. If to this are added the patients now employed in other posts, at least 47 patients or 59·7 per cent. are usefully employed as a direct result of the scheme and without further medical treatment. These figures understate the result, because a further 7 left for personal or family reasons and some of these are known to be employed elsewhere.

The patients who relapsed were mainly psychopaths, alcoholics and paranoid schizophrenics. On their return to hospital, however, they succeeded in re-establishing themselves in employment, as shown in Table VII.

This Table shows the value of the scheme in stimulating the patients who failed to establish themselves initially at Redbourn. Within the period under consideration, 8 patients out of 25 managed to be economically independent after recovering from their relapse, and a further 9 were on the pathway of economic re-establishment, 4 of them already being back at the steelworks, travelling daily on the hospital bus. Therefore, 59 (74·7 per cent.) of the patients in the scheme are of independent economic status.

*Turnover*

In 1965 the turnover for both general works staff and patients was 36 per cent. In 1966 general works staff 33 per cent. and patients 22 per cent.

This indicates that once patients are firmly established at work they become stable employees and can provide a steady and disciplined labour force.

Of the patients who resigned, 64·5 per cent. did so for health reasons, as compared with 4·5 per cent. of the general works grade; whereas 34 per cent. of the general works grade resigned with no know reason as against 16 per cent. of the patients. None of the patients resigned on account of dissatisfaction with pay, working conditions or personal relations. None of the patients were dismissed for disciplinary reasons.

*Reliability*

In 1965 the patients worked an average of 1,013 hours, compared with 2,115 for the works grade. For the first half of 1966 the average per patient had risen to 877 hours, whereas the works grade was static at 1,045 hours. On the other hand, in 1965 the workers lost 53 hours per worker, compared with 18 hours per patient. In the first half of 1966 the hours lost per worker had increased to 37 hours, and the hours lost per patient had also increased to 14 hours.

*Productivity*

Both management and workers have commented upon the high quality of the patients' work. The foremen have noted that whilst it was usually slower it was also steadier and more consistent.

The average wage of the patients was £14 10s. 4d. weekly. The average wage for the steel industry is not available but the National average wage for industry was £19 5s. 0d. weekly (Ministry of Labour Gazette, tax year 1965–1966).

The factors influencing the patients' success or failure in industry are now examined.

TABLE VIII

*Comparison of the Length of Service during 1965 of Those Leaving Redbourn Steelworks*

| All work grade length of service | No. | % | Ex hospital patients No. | % |
|---|---|---|---|---|
| Under 1 month .. | 195 | 16 | 13 | 42 |
| 1–3 months .. .. | 386 | 32 | 11 | 36 |
| 4–12 months .. .. | 308 | 25 | 6 | 19 |
| 1–2 years .. .. | 163 | 13 | 1 | 3 |
| Over 2 years .. .. | 173 | 14 | — | — |
| Total .. .. | 1,225 | 100·00 | 31 | 100·00 |

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*Age*

There was a tendency for the younger and older groups to succeed better than the group in age range 35–50 but this is not statistically significant.

*Accommodation and Transport*

No patients left the scheme owing to problems in these spheres. The return journey from St. John's Hospital to the works is 67 miles. It therefore appears that distance is not a valid objection to such a scheme. Later in the scheme a number of the patients gained sufficient self-confidence to find themselves lodgings in the town.

*Duration of Hospitalization*

The patients are now examined for the duration of hospitalization and the length of time unemployed before entry to this scheme.

After transformation to normality, the difference in average duration of hospitalization is significant at the 5% level ($t_{76}=2\cdot15$). In the case of the length of time unemployed, the difference is significant at the 0·1% level ($\chi^2_2=16\cdot13$). Both hospitalization and unemployment are associated with higher risks of relapse.

## Discussion

The results show that 65 per cent. of the patients have worked more than a year, and these patients, because they are selected for their chronicity, are drawn from a potentially poorer sample than those evaluated by Wing in 1960. The crucial factor in their successful rehabilitation is not merely the training, but rather the skilled supervision which they receive at the Works—supervision which covers not only their occupations, but also their social and medical lives. This supervision is an extension of that provided in the hospital itself, where the patients work in an industrial rehabilitation unit.

The Tables suggest that long periods in hospital are detrimental, but that long periods

Table IX

*Examination of the Detailed Figures of Table III (Length of Time from the First Admission to Hospital to Entry into the Scheme)*

| | In scheme | | Returned to hospital ill | | Not returned to hospital | |
|---|---|---|---|---|---|---|
| Under 3 months .. | 9 | | 2 | | 7 | |
| 3 months–6 months .. | 4 | 19 | 1 | 3 | 3 | 16 |
| 6 months–1 year .. | 6 | | — | | 6 | |
| 1 year–2 years .. .. | 8 | | 2 | | 6 | |
| 2 years–3 years .. | 5 | 26 | 2 | 7 | 3 | 19 |
| 3 years–5 years .. | 13 | | 3 | | 10 | |
| 5 years–10 years .. | 11 | | 5 | | 6 | |
| 10 years–15 years .. | 11 | | 5 | | 6 | |
| 15 years–20 years .. | 8 | 34 | 5 | 15 | 3 | 19 |
| Over 20 years .. .. | 3 | | — | | 3 | |
| Not known .. .. | 1 | | — | | 1 | |
| Total .. .. | 79 | | 25 | | 54 | |

Table X

*Length of Time Patients not Remuneratively Employed Before Entry to the Scheme at Redbourn*

| | In scheme | Returned to St. John's | Not returned |
|---|---|---|---|
| Up to 1 year .. .. | 36 | 6 | 30 |
| 1–5 years .. .. | 24 | 6 | 18 |
| Over 5 years .. .. | 19 | 13 | 6 |
| Total .. .. | 79 | 25 | 54 |

out of properly organized employment are much more so. Therefore patients should be treated for their illness and re-employed under the hospital's supervision as soon as practicable.

Severe mental illness does not carry a hopeless prognosis. With support from a comprehensive rehabilitation scheme, patients can work as efficiently as other members of the community. By 1966, the firm were satisfied and the number of patients hours worked were climbing steeply. The majority of our patients were employed in the blast furnaces where the worker turnover was very high. It has been stated that at times the blast furnaces could not have continued to function without the patients' help.

As they gained economic independence the patients also gained confidence, improved their personal appearance and eventually lost all semblance of institutionalization, such as walking in "crocodiles" or standing about aimlessly.

The main problems in establishing a rehabilitation scheme of this type are:

1. The importance of treating the patients' illnesses and then stabilizing them.
2. The avoidance of stagnation amongst both patients and staff in the hospital.
3. The careful selection of key personnel who will work the scheme, particularly the hospital rehabilitation officer.
4. Comprehensive after-care for the patients in the out-patient department and by the general practitioner.
5. The acceptance of the hospital patient by his fellow workers.
6. The active acceptance by the management of the patients' economic contribution.
7. The full understanding and co-operation of the works medical service is necessary for a scheme of this magnitude.
8. Proper provision and supervision of transport and accommodation.

## Conclusion

The results show that it is possible to employ chronic psychiatric patients efficiently, productively and economically in the general industrial community and in particular in heavy industry.

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The responsible burden at St. John's Hospital of running the therapeutic community and providing the public with a service is fully shared by the nurses, social workers and non-nursing staff alike.

We wish also to acknowledge the co-operation of the offices of the other hospitals participating in the scheme—Rauceby and Saxondale.

We hope that we have not mislaid or misused any of the abundant sources of goodwill and co-operation which are available not alone at the hospital but in the steel works at Scunthorpe and throughout the City of Lincoln and the three Parts of Lincolnshire. We are also grateful to all the other employers, workpeople and unions who have so willingly encouraged us in this venture and accepted their colleagues back into a useful life.

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