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THE PROGNOSTIC VALUE OF VOCATIONAL ASSESSMENT[1]

Börje Cronholm, Gudrun Hådell and Karl-David Lundgren

From the Department of Psychiatry, Karolinska sjukhuset, the Board of Health and Welfare, and Arbetskliniken, Stockholm, Sweden

ABSTRACT. During the years 1957–59 283 men were examined at the National Institute for the Assessment of Work Capacity of the Handicapped. Their current financial status is studied in relation to various background variables. Younger persons succeeded better than older ones; attitudes considered to hamper rehabilitation and a slow pace of work were unfavourable prognostic factors.

The National Institute for the Assessment of Work Capacity of the Handicapped undertakes to assess vocational rehabilitation clients who present particular difficulties in placement and evaluation. The policy principle of this Institute has been to accept primarily the physically handicapped, but some persons with a known mental disease or insufficiency have also been admitted. We have excluded persons known to be suffering from severe mental disorders, overt asociality or alcoholism, psychoses and severe mental retardation. We have preferred those where a positive response to the efforts at rehabilitation might be expected, as judged from the documents presented upon referral. Only in exceptional cases have persons over 50 years of age been admitted. Handicaps resulting from brain lesions are for various reasons disproportionally represented. The clients are by no menas a random sample of the applicants for vocational rehabilitation who are considered difficult to place and evaluate.

Cronholm (1) has analysed the case histories of 283 male patients who had been registered at the Institute during 1957–59. We have recently examined their present situation on the basis of their sickness benefit category on January 1st, 1967, and derived an estimate of their annual income.

Table I shows income (on January 1st, 1967) against main medical handicap (the disease or defect considered to be the main cause of the work deficiency). Out of this sample population 25 had died, 79 had a disability pension (and/or an income from work of less than Sw. kr. 2600 a year), 106 were earning at least Sw. kr. 16,000 a year, and the remaining 73 lay between these two levels. A detailed discussion of each disease group is unnecessary here, but it may be mentioned that of the 39 patients where disorder of *arms, legs* or *lower back* constituted the main medical handicap, 20 were earning at least Sw. kr. 16,000 a year, 9 were pensioners and only 2 had died. The circumstances of the *polio* group may likewise be regarded as satisfactory. Of the group of 10 where *heart disease* was the main medical handicap, 6 had died while the remaining 4 were enjoying reasonable incomes. Out of 18 patients affected by *organic nerve* and *muscular disease* 4 had died, 6 were pensioners and only 3 were earning over Sw. kr. 16,000. The patients with a *brain injury* had, in general, fared rather badly; however, there were 20 of them who were receiving an income of at least Sw. kr. 16,000, among them 9 of the 30 with a diagnosis of cerebral palsy. Of the total group of 72 with *brain injury* 27 were receiving pensions. Among the persons with *mental disorder* the intelligence defect and psychosis groups are so small that they do not warrant close analysis. The third group labelled "Other mental disorders" includes a diversity of conditions, mostly character neuroses and psychopathies of most diverse kinds. Nearly one third of this group were receiving a pension (22 of the 75), but the circumstances of the others were better, 29 of them enjoying incomes exceeding Sw. kr. 16,000.

[1] Paper presented at the Second Scandinavian Congress on Medical Rehabilitation held in Stockholm on June 4–7th, 1967.

Table I. *Current annual income in relation to main medical handicap during the stay, 1957–59*

		Income[a]				
	Dead	–2600	2600–10,199	10,200–15,999	⩾16,000	Total
A. *Somatic disorder*						
1. Disorder of the back	1	4	0	3	9	17
2. Disorder of arms and legs	1	5	1	4	11	22
3. Poliomyelitis	2	4	1	4	10	21
4. Polyarthritis	1	1	0	1	2	5
5. Heart disorder	6	0	0	1	3	10
6. Lung disorder	2	1	0	3	2	8
7. Organic nerve or muscular disorder	4	6	2	3	3	18
8. Others	1	6	0	4	10	21
Total	18	27	4	23	50	122
B. *Brain injury*						
1. Traumatic injury	1	5	0	5	8	19
2. Vascular injury	1	4	2	1	1	9
3. Cerebral palsy	0	12	3	6	9	30
4. Others	0	6	4	2	2	14
Total	2	27	9	14	20	72
C. *Mental disorder*						
1. Primary intelligence defect	0	0	2	1	1	4
2. Psychosis	1	3	0	0	6	10
3. Others	4	22	3	17	29	75
Total	5	25	5	18	36	89
Total (A + B + C)	25	79	18	55	106	283

[a] According to sickness benefit category, Jan. 1st, 1967.

Table II shows income in relation to work deficiency, as it was estimated at the time of admission during the period 1957–59. The "Work deficiency" of a person is the resultant of all the medical and social handicaps and of any positive factors such as aptitude, stability of personality and good motivation for work. The work deficiency has been rated according to a four-degree scale, namely, slight, moderate, severe and most severe work deficiency, ac-

Table II. *Current annual income related to the degree of work deficiency estimated at the time of admission, 1957–59*

		Income[a]				
	Dead	–2600	2600–10,199	10,200–15,999	⩾16,000	Total
Work deficiency						
1. Slight	0	0	0	3	19	22
2. Medium[b]	4	6	1	14	35	60
3. High[c]	9	21	5	23	36	94
4. Very high	12	52	12	15	16	107
Total	25	79	18	55	106	283

[a] According to sickness benefit category, Jan. 1st, 1967.
[b] Placement in the open labour market might be feasible, though opportunities are few.
[c] Placement in the open labour market is extremely difficult, although feasible under sheltered conditions such as part time work, or provided that other alleviating measures can be taken.

Table III. *Current annual income in relation to the recommendations at the time of discharge, 1957–59*

		Income[a]				
	Dead	< 2600	2600–10,199	10,200–15,999	≥ 16,000	Total
Institute's recommendation						
1. Medical care	1	0	1	3	3	8
2. Disability pension	9	48	10	9	11	87
3. Work training	3	6	2	8	13	32
4. Vocational training	4	10	2	21	48	85
5. Direct job placement	8	15	3	14	31	71
Total	25	79	18	55	106	283

[a] According to sickness benefit category, Jan. 1st, 1967.

cordingly as placement on the open labour market is possible, difficult, extremely difficult, and nil. As the assessed severity of the work deficiency increased, so did the death rate. The majority of the group "Slight work deficiency" received a higher income, while the opposite applies to the high-degree group. It should be noted however, that as many as 16 of the 107 assigned to the latter group were earning at least Sw. kr. 16,000.

In Table III the current financial situation is compared with the recommendation on discharge. In general, there is a good measure of agreement. Thus, 48 of the 78 still living—that is, more than half of those recommended for supplementary disability pension or sickness benefit—were receiving a pension. Twenty of these 78, however, were enjoying incomes of at least Sw. kr. 10,200. The circumstances are considerably better for those who were recommended for work training, vocational training or direct job placement. Only 31 of the 173 survivors were receiving a pension, and a comparatively high income was common; 92 out of these 173—that is, about half—had a yearly income of at least Sw. kr. 16,000.

It would have been of interest to analyse the relationship between income and recommendation for the various groups of medical handicaps but most of the groups were too small for this purpose. However, for the cerebral palsy group of 30 patients there is a clear correlation (Table IV). Of the 14 recommended for a disability pension only 2 have an income of Sw. kr. 10,200 or more, while all but 3 of the remaining 16 who were recommended for vocational training or direct job placement fell within this bracket.

There is also a fairly close correlation between the recommendation and the current situation for the 75 clients whose main medical handicap was labelled "Other mental disorder" (Table V). Of the 15 survivors recommended for a disability

Table IV. *Current annual income for clients with cerebral palsy as main medical handicap, in relation to the recommendations of the Institute, 1957–59*

		Income[a]				
	Dead	< 2600	2600–10,199	10,200–15,999	≥ 16,000	Total
Institute's recommendation						
1. Medical care	0	0	0	0	0	0
2. Disability pension	0	9	3	1	1	14
3. Work training	0	3	0	2	4	9
4. Vocational training	0	0	0	1	3	4
5. Direct job placement	0	0	0	2	1	3
Total	0	12	3	6	9	30

[a] According to sickness benefit category, Jan. 1st, 1967.

Table V. *Current annual income for clients with mental disorders other than primary intelligence defect or psychosis as main medical handicap, in relation to the recommendations of the Institute, 1957–59*

		Income[a]				
	Dead	< 2600	2600–10,199	10,200–15,999	≥ 16,000	Total
Institute's recommendation						
1. Medical care	0	0	1	3	0	4
2. Disability pension	1	10	1	4	0	16
3. Work training	1	1	0	1	5	8
4. Vocational training	0	3	0	4	12	19
5. Direct job placement	2	8	1	5	12	28
Total	4	22	3	17	29	75

[a] According to sickness benefit category, Jan. 1st, 1967.

pension, 4 had an income of at least Sw. kr. 10,200. Of the 52 survivors recommended for vocational training or direct job placement 39 were receiving this income.

One of the main objects of this investigation was to ascertain prognostic factors or constellations of factors. It was thus found of interest to ascertain which factors might have had a detrimental and which a beneficial effect on those patients where our recommendations have failed. It may be assumed that age is an important factor. From Table VI it is seen that of the 20 for whom a disability pension was recommended but who have attained an income over Sw. kr. 10,200 15 were not more than 30 years of age; on the other hand, of the 58 who did not attain such an income only 30 were less than 30 years. The situation is similar for the group recommended a direct job placement or vocational training; among those of the 25 pensioners with an income of less than Sw. kr. 2600 only 7 were under 30 years of age at assessment; of the 119 earning Sw. kr. 2600 or more 64 were less than 30 years old.

In evaluating the clients during their stay at the Institute we took account of attitudes that we considered were hampering rehabilitation efforts or implying resistance to rehabilitation. We have therefore listed a number of such traits with widely divergent aetiological background in the various cases. Some patients displayed a distinctly negative attitude towards, and resisted, any measures that might eventually lead to a constructive solution of their problems of vocational rehabilitation. Manifestations of this attitude included complaints of somatic or mental troubles during work, or extreme fatigue, necessitating frequent pauses and rests. They "lacked interest" for certain types of work and, in general, any attempt at a realistic

Table VI. *Current annual income of surviving clients for whom either disability pension or direct job placement or vocational training was recommended at the time of discharge, 1957–59, in relation to age at that time*

Recommendation	Disability pension			Direct job placement or vocational training		
Income[a]	< 10,200	≥ 10,200	Total	< 2600	≥ 2600	Total
Age on assessment						
< 20	30 { 12	7 } 15	19	7 { 3	24 } 64	27
21–30	18	8 }	26	4	40 }	44
31–40	10	3	13	7	29	36
41–50	13	2	15	11	24	35
≥ 51	5	0	5	0	2	2
Total	58	20	78	25	119	144

[a] According to sickness benefit category, Jan. 1st, 1967.

Table VII. *Current annual income in relation to attitudes hampering rehabilitation displayed during the stay at the Institute in 1957–59 by clients with somatic diseases or mental disorder as main medical handicap*

	Income[a]				
	< 2600	2600–10,199	10,200–15,999	≥ 16,000	Total
Attitudes hampering rehabilitation	28	4	16	31	79
No such attitudes	24	5	25	55	109
Total	52	9	41	86	188

[a] According to sickness benefit category, Jan. 1st, 1967.

adjustment to work provoked a variety of escape reactions. To this category are assigned patients displaying an evident, although unconscious, desire for secondary gain. Among the survivors with main medical handicaps other than brain injury we have studied the relationship between the present situation and attitudes hampering rehabilitation.

As Table VII shows, 28 of the 79 clients considered to display such attitudes were living on a pension, whereas of the other 109 only 24 were receiving a pension. This suggests some causal relationship, although a weaker one than had been expected. It is possible that these attitudes vanished with time, perhaps as a result of vocational rehabilitation or other suitable therapeutic measures.

Another factor that was examined while the patients were at the Institute was the working pace, and an analysis has been made of the relation between this and financial status (Table VIII). Patients with brain injuries excluded, 27 of the 74 clients classed as slow workers were drawing a pension, against only 25 of the 114 assessed as "not slow". A slow pace of work thus seems to be a prognostically unfavourable factor. In the brain injury group the slow ones were still worse off, but here slowness is related to other prognostically unfavourable factors that are correlated with the degree of the injury.

In Table IX the current financial status is compared with an annual income level, estimated from the monthly income on June 1st, 1961. Calculated in Swedish kronor, the classifications are different.

Table VIII. *Current annual income of surviving clients in relation to their working pace during their stay, 1957–59*

	Income[a]				
	< 2600	2600–10,199	10,200–15,999	≥ 16,000	Total
Somatic or mental disorder					
Slow working pace	27	7	16	24	74
Not slow working pace	25	2	25	62	114
Total	52	9	41	86	188
Brain injury					
Slow working pace	25	7	6	11	49
Not slow working pace	2	2	8	9	21
Total	27	9	14	20	70

[a] According to sickness benefit category, Jan. 1st, 1967.

When account is taken of the decrease in monetary value, an income of less than Sw. kr. 1200 on June 1st, 1961, was deemed to correspond approximately to an income of under Sw. kr. 2600 on January 1st, 1967. As is seen from the table, there was in general a considerable improvement. It is of particular interest to note that of the 107 who had an annual income of less than Sw. kr. 1200 on June 1st, 1961, there were, 6 years later, 50 with an income of over Sw. kr. 2600, and 23 of these were receiving at least Sw. kr. 16,000.

SUMMARY

Of the patients admitted to the National Institute for the Assessment of Work Capacity between

Table IX. *Current annual income in relation to the annual income estimated on basis of monthly income on June 1st, 1961*

	Income according to sickness benefit category as of Jan. 1st, 1967			
	2600	2600–15,999	≥ 16,000	Total
Income estimated according to monthly income at June 1st, 1961				
< 1200	57	27	23	107
1200–12,000	13	34	34	81
≥ 12,000	5	7	40	52
Data not available				18
Dead				25
Total	75	68	97	283

1957 and 1959 283 men were analysed from various aspects by Cronholm in 1961. The current income of these clients was appraised on the basis of their sickness benefit category on January 1st, 1967. The current financial status was also compared with recommendations of the Institute and certain other data relating to the patients. Of the 283 patients originally admitted 25 had died; 79 were receiving full pension benefits, and as many as 106 had incomes of at least Sw. kr. 16,000.

Broadly speaking, our prognostic evaluation has proved to be correct, but 20 of the clients who had been recommended for pension were enjoying incomes of at least Sw. kr. 10,200, and 25 of the 156 recommended for vocational training or direct job placement were drawing a pension.

The current income level seems to be dependent upon the age at the time of the vocational assessment. Younger persons, viz., those up to 30 years of age, comprised the majority of those who succeeded beyond expectations, while older persons were in the majority among those who were less successful than had been forecast.

Attitudes hampering rehabilitation during the period of vocational assessment were more common among those with low income than others. A slow pace during the period of vocational assessment appears to be a prognostically unfavourable factor.

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Adress for reprints:
Börje Cronholm, M. D. Professor
Psykiatriska kliniken
Karolinska sjukhuset
104 01 *Stockholm*, Sweden