

## **5. Return to Work of Workers with Chronic Disease**

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### ***Abstract***

Following to Slovenian legislation disability is established when the state of health has changed and cannot be reversed by treatment or measures of medical rehabilitation and the capacity to secure or keep a job or to advance in a career has been reduced due to these changes. Invalidity assessment is based on obligatory providing of medical and work documentation. Work capacity can only be assessed by weighing the health condition of the insured against the load and requirements related to professional work. The bearer and implementer of disability insurance are The Pension and Invalidity Insurance Institute of Slovenia. The Institute's interest is to observe new methods for assessment of disability as a part of successful return to work model for workers with chronic diseases after the established disability.

For this reason a research was carried out based on the bio – psycho – social model of the ICIDH – International Classification of Impairment, Disabilities, and Health (predecessor to the International Classification of Functioning, Disability, and Health -ICF). The aim was to study the use and usefulness of the ICIDH/ICF model and tools derived from it for the assessment of functional capacities of a disabled worker and the functional requirements of the task as the base for establishing disability in the framework of our legislation.

***Material and methods.*** The framework was ICIDH/ICF. The doctor and 50 workers with chronic diseases and related disabilities assessed Functional State as activities of five domains by the adapted Rehabilitation activity profile – RAP (derived from ICIDH/ completely suits to ICF). ERTOMIS method (derived from ICIDH/ completely suits to ICF) was used to identify the job requirements. The matching by VR team was done to screen the job related problems.

***Results.*** The doctor and the clients detected diminished abilities of all five domains, above all in mobility. The doctor assessed the problems as less serious as the clients perceived them. On average, the ERTOMIS profiles identified as the highest job requirements for functions of upper extremities, constraint body positions, mismatching with scores of identified corresponding abilities were statistically significant. In 98% cases the adjustments were needed and proposed for return to work. Functional capacity expressed by total scores of RAP and years of service contributed to the decision on returning or not returning to work at the most.

***Conclusion.*** For the Slovenian system of establishing disability of workers the results of the study highly influenced the changes that were brought with new legislation. They could strongly support the need for the practical use of the ICF as a common model for developing new guidelines and core sets, also as tools, for all parts involved in disability assessment and return to work of disabled workers in the process of implementing disability insurance rights.

### ***Introduction***

In Slovenia the assessment of invalidity or permanent work incapacity is performed by the board of examiners, an expert body of the Institute of Pension and Invalidity Insurance of Slovenia, which passes expert opinions with a panel.

Invalidity assessment is based on obligatory providing of medical and work documentation. Medical documentation, collected by one's treating doctor, shows functional health condition of an insured person and their work capacity. Work documentation, on the other hand, includes the information on work conditions, the strain and health demands regarding the

work performed in the last job, descriptions of other posts the insured could work in, the attained and required qualification, the possibility and suitability of vocational rehabilitation and suitable jobs after the rehabilitation. Apart from the employer an active role in the process of collecting work documentation is played by an expert in safety at work, covering the evaluation of strains, demands and noxiousness of a work place, and an approved medical practitioner, a specialist in occupational medicine.

The panel of invalidity board examiners consists of two – exceptionally three – medical practitioners, specialists in different medical branches, depending on the health condition of the insured, and an expert in safety at work, work organization, industrial psychology or another corresponding specialization.

In line with professional guidelines in the field of vocational medicine and the Pension and Invalidity Insurance Act work capacity can only be assessed by weighing the health condition of the insured against the load and requirements related to professional work. In the assessment of health condition it should be stated whether it is the case of chronic disease and consequently permanent health damage with an individual insured person and the grade of functional impairment should be established. In the evaluation of the load and requirements related to a certain job those exceeding one's functional capacity should be defined and excluded from the work process.

The number of all claims for assessment of invalidity, psychical impairment and assistance and attendance allowance and the number of the insured assessed by boards of examiners has been on the increase in the last few years. In 1996 the total number of cases dealt with was 28.711, in the years to follow the number of the assessments gradually increased to a peak of 35.875 in 2004, in 2007 this number was 33.113.

The number of those assessed as disabled between 1996 and 2007 amounted from 8.729 to 13.000. In 1996 4.228 (49 %) of them were assessed as totally incapable for work, 4.441 (51 %) were sent back to work, however, with lesser load in terms of work and/or time. But in 2007 only 2.979 (24 %) of them were assessed as totally incapable for work and 9.369 (76 %) were sent back to work.

The most frequent invalidity cause at the first assessment in 2007 was illness (90.3 %), followed by non-employment injuries (6.1 %), industrial injuries (3.3 %) and occupational diseases (0.3 %).

The most frequent causes of invalidity were diseases of the musculoskeletal system and connective tissue (31 %), mental and behavioural disorders (19%), followed by diseases of the circulatory system (11 %), neoplasm (10%), and neurological diseases (7%), etc.

The vocational rehabilitation (VR) team at the Institute for Rehabilitation of the Republic of Slovenia is a permanent service provider for the medical examiner board, consisting of the medical examiners of the Pension and Invalidity Insurance Institute of Slovenia. Chronically ill workers who are in the process of disability assessment could be referred to VR team for additional functional assessment regarding their residual abilities, who helps to overcome certain problems as response to chronic disease. It also undertakes the activities at the workplace in cooperation with the employer (assessment of the requirements, proposed changes and adaptations).

This cooperation and complex approach of VR team support the decision to conduct the presented research. The issues in the study were as follows:

- what is the integrity/complexity of the permanent consequences of health disorders (chronic disease remains practically all the time the same by using the diagnose as a part of the etiological model of diseases);
- how are disabilities/abilities or needs perceived by disabled person as workers themselves;

- the importance of matching the abilities of a worker and requirements at the work place towards the return to work.

The aim was to study the use and usefulness of the ICIDH/ICF model and tools derived therefrom in order to find the answers to above questions, the latter being an important part in the process of establishing invalidity in the framework of our legislation, thus supporting the bio-psycho-social model to be accepted in this part of our system of social security as well.

### ***Design of the study/Material and methods***

The framework was ICIDH as predecessor to ICF. The applied research was part of the routine work of the VR time in the period from 1996 to 1997. Criteria for the participants' recruitment: employed, first time admitted in VR team at the first assessment regarding invalidity, with consequences of musculoskeletal disorders (MSD), literate, without serious psychiatric disorder. 50 clients suited the criteria in this period. The doctor and clients assessed functional state as activities of five domains by the adapted Rehabilitation activity profile – RAP (derived from ICIDH, Bennekon, Lankhorst, Jelles, 1993, 1994, 1995), which entirely suits to ICF. It includes 33 activities for 5 domains: psychic functioning, communication, movement/locomotion, person care, situational environmental factors. For scoring a 4–point scale was used (0 means normal), it is designed as a questionnaire.

The ERTOMIS method EAM (derived from ICIDH/ completely suits to ICF) (ERTOMIS Stiftung, Gemeinnützige Gesellschaft zur Förderung von Wissenschaft mbH) was used to identify the job requirements. It offers a practically direct comparison of person's abilities and job requirements, thus disclosing disadvantage or mismatching. It includes 65 criteria or characteristics for 7 domains: functions of lower and upper extremities, trunk and head, basic postures and activities, sensory and mental requirements, communication, work related environmental conditions, leadership requirements. The matching was done to screen the job related problems. For scoring a 4-point scale was used (0 means full, normal requirement, 3 means no requirement).

The matching of RAP with requirements profiles scores was done to screen the job related problems.

Independent variables: gender, age, education, working period, number of diagnosis, sick leave, degree of invalidity/level of work capacity, state of ill health.

### ***Results of the study***

Characteristics of the participants were as follows: age range from 21 to 55 years, mean age 38. Men were 19 (38 %), women 31 (62 %). Education level: 21 (42 %) had finished primary school or less, the others secondary school. Diagnostic status: 26 persons (52 %) sustained traumatic injury of the musculoskeletal system, 17 persons (34 %) had one of degenerative diseases, and the rest diagnoses of this system. All participants had 82 diagnoses, on average, each person had 1,64 diagnosis. Sick leave before admittance: 6 months 12 persons (24 %), to 1 year 18 persons (36 %), to 2 years or more 15 persons (30 %). Working period: mean period was 18 years, half of the participants between 21 to 30 years. Work position: 36 persons (72 %) had a work position in the main working process, the rest of the sample participants performed different service jobs.

Analysis of the EROMIS requirements profiles showed that the highest score were given for hand activities, both side (mean score 0,70, for 22 work places score 0, at 21 work places score 1). Very similar distribution in number and scores were for requirements for finger activities of one side and coordination of upper activities, followed by mean score of 0,92 for forearm activities. Requirements that should be stresses are: constrained body positions, good visual acuity, high attention and critical control. The highest job requirements for functions of upper extremities and constraint positions significantly mismatched with the scores of

corresponding abilities in RAP. For all participating persons VR team suggested a solution to return to work: work site modifications for 18 persons (36 %), selected another job/work position for 18 clients (36 %), training or education proposed for 8 participants and 6 clients (12 %) were assessed as permanent incapable for work.

As to the results of analysis of the RAP it is important to stress that the participants evidenced a much higher number of functional limitations than the number of diagnosis. The participants had the highest number of movement functional limitations, followed by the limitations in overcoming environmentally conditioned obstacles, in the field of psychic/mental functioning and with performing activities connected with personal care. The level of impaired functioning expressed with mean score showed the most reduced movement related functions and than again those regarding the overcoming of environmentally conditioned obstacles. Important was the finding that the doctor and the clients detected diminished abilities of all five domains of RAP, again, above all, movement related functions. Contrary to participating persons the doctor, on the average, assessed the impairment related problems as less serious as the clients perceived them for all domains of RAP. The assessed score difference between doctor and client were statistically significant for most of movement related functions on the level single evaluations. The scores of the participants had higher predicted value relating to congruent evaluation of both, the doctor and the client. Of the independent variables the differences in scoring the level of function limitations were importantly influenced by age, working period and state of ill health.

Complex Functional Capacity expressed by total scores of RAP and years of service would most contribute to doctor's/team's decision regarding the return or not return to work (permanent work incapacity) while the participants themselves would make the decision about their permanent (in)capacity primarily from the point of the years of their working period (stepwise discriminant analysis).

The results of the study provided supportive answers to our questions for the group of clients participating in it:

- functional status together with diagnosis-es should be the base for work capacity assessment,
- it seems that functional capacity could have good prognostic value for work (in)capacity assessment, yet together with some other disabled person's characteristics , in our study at least with person's age and his/her working period,
- the assessment of job requirements should be done with the method(s) that enable the matching with disabled worker (dis)abilities to find reasonable solutions for return to work or for decision for permanent incapacity for work; inter - professional/team decision making is highly important,
- answers to the questions of our study are supportive for the paradigm that was brought by the ICIDH and which was further developed to the model of its successor ICF. It is and should be used also to develop new guidelines and tools assistive for disabled workers and professionals in the process of work capacity assessment and decision making on what is a corresponding and effective solution regarding return to work for them.

### ***Conclusion***

For the Slovenian system of the assessment of disability the results of the study essentially influenced the changes that were brought with new the legislation as of 1999 . In 1999 a new Pension and Invalidity Insurance Act was passed, followed by a new regulation on the operation of expert bodies of the Institute of Pension and Invalidity Insurance of Slovenia, prescribing additional work documentation required for dealing with an insured person on the board of examiners. The context of the ICDH model and also the results of the presented study much influenced the content of this new work documentation and stimulated the

preparation of completely new documentation: Form for Work History for disabled insured person and Form for Work History for the Employer. In 2002 an expert team towards updating invalidity assessment has been established, seminars on ICF are being organized. Slovenia is also taking more active role within EUMASS and follows the preparations for the implementation of the ICF core set, intending to take active part in its testing in the future.

The authors are aware that the presented study is based on the ICIDH but the transcription to the model of its successor ICF is possible, though not perfectly. The experience we had in this study still has its practical value for current activities towards improving the applicability of ICF. They could strongly support the need for practical use of the ICF as a common model for developing new guidelines and core sets, also as tools, for all parts involved (professionals, disabled insured person/worker, employer) in the field of pension, invalidity and social insurance, which is strongly linked with return to work and job retention of people with disabilities, the latter also more and more becoming the aging population.