

The practice in applying and ways to improve criteria for establishing the degree of occupational disability in the territory of the Russian Federation

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Abstract

Aim. To assess the practice in applying “Temporary criteria of determination of extent of loss of professional working capacity” currently in force in various constituent entities of the Russian Federation and to substantiate the main directions for their improvement.

Methods. The analysis of expert decisions to establish the degree of occupational disability, adopted in the period from 2015 to 2017, was carried out in 77 subjects of the Russian Federation for two nosological forms: (1) consequences of lower limb injuries (T93) and (2) bilateral sensorineural hearing loss (H83.3). A comparative analysis of expert decisions made using current and proposed by the authors’ criteria in 2 constituent entities of the Russian Federation in 2018 was carried out. For data analysis, we used descriptive statistics methods.

Results. Taking into account a high variability in expert decisions making in the constituent entities of the Russian Federation for similar cases (coefficient of variation 21.6%), the authors conclude that it is necessary to change approaches to the methodology for assessing the type of professional activity (qualifications, quality and volume of work, ability to perform it). Using the authors propose criteria based on the concept of reasonable accommodation allowed us to significantly reduce the variability of the decisions made in the “pilot” regions, the coefficient of variation decreased from 21.25 to 7.43%.

Conclusion. High variability of decisions made during the examination of the degree of occupational disability is associated with the imperfection of the methods and criteria for assessing the victim's professional activities; the use of the criteria proposed by the authors allows for a higher reproducibility of the results of the examinations.

Keywords: the degree of occupational disability, social insurance, injured at work, medical and social examination.

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Background. The methodology for the expert assessment of the degree of occupational disability (OD) in percentage was developed more than 20 years ago. It includes the main methods for assessing occupational aptitude and accessibility to work and considers both medical criteria and professional factors. At the same time, in recent years, conceptual approaches to understand the phenomenon of disability have changed significantly from a medical paradigm to a biopsychosocial one, as well as the statutory and regulatory assessment of working conditions, and the content and organization of medical and social expertise.

An analysis of litigation practice related to claims of insured citizens and insurers regarding compensation for harm to health [1] reveals significant methodological problems of the criteria in the absence of a clear interpretation of the accounting of information about labor activity, labor prognosis, and labor potential of the person injured at work during the expert assessment. The imperfection of the existing criteria, including the “professional” ones (comparison of rating categories, categories of intensity and amount of work, as well as wages), leads to a biased approach in interpretations [2], which entails several problems in law enforcement

[3] and complicates the timely and quality provision of medical and rehabilitation services [4].

The current criteria do not consider the modern provisions of the International Classification of Functioning, Disability, and Health that are currently used in assessing the degree of impaired body functions. These are used in relation to persons with a cause of disability “general disease” per the classifications and criteria used in medical and social expertise of citizens by federal state institutions of medical and social expertise, approved by the order No. 585n of the Ministry of Labor of Russia dated August 27, 2019. It should be no surprise that the UN Committee on the Rights of Persons with Disabilities recommends that the Russian Federation revise the current legislation and existing expert practice to determine the harm caused to the health of people injured at work, to increase the level of transparency and effectiveness of guarantees [5].

Materials and methods. This study was conducted in two stages. In stage 1, an observational analytical study was performed. It involved a continuous analysis of expert decisions to establish the degree of OD. This was based on the official data of the Ministry of Labor and Social Protection of the Russian Federation (reporting forms No. 7 of the social security department and information from the unified automated vertically integrated information and analytical system for conducting medical and social expertise). It was adopted during the period from 2015 to 2017 in 77 constituent entities of the Russian Federation, according to the following nosological forms:

- the consequences of injuries to the lower limb (T93);
- bilateral sensorineural hearing loss (H83.3).

In stage 2, an experimental, analytical study was conducted. During the study, a comparative analysis of expert decisions was made. The study used the authors’ existing criteria, and those proposed at two constituent entities of the Russian Federation in 2018. For the period indicated, 2338 examinations of people injured at work were conducted in the Sverdlovsk Region and the Stavropol Territory. The volume of the sampling population amounted to 618 examinations (confidence coefficient 99%–99.7%, confidence interval $\pm 4.55\%$).

Descriptive statistics were used in the analysis. The standard error, standard deviation, and the level of reliability of the mean values were estimated using the standard analysis package for Microsoft Excel. Variant dispersion and the variation coefficient were assessed. Although the variability was regarded as low when the coefficient of variation did not exceed 10%, it was considered average when

the coefficient of variation was within 10%–20%, and high when the coefficient of variation exceeded 20%. The assessment of the significance of differences in the coefficients of variation was performed based on the following algebraic expression:

$$|C_1 - C_2| / \sqrt{m_{c_1}^2 + m_{c_2}^2} > 3 + 6/(N-4),$$

where $|C_1 - C_2|$ is the absolute value of the difference of the coefficients of variation; N is the number of cases in the smaller of the samples under study; m_{c_1} and m_{c_2} are variation coefficients errors [6].

If the inequality was satisfied, the left part was greater than the right part, and then the differences were considered statistically significant.

Results and discussion. Russian legislation provides the possibility of establishing the degree of OD in the range from 10% to 100% in 10% increments. For example, OD can be established in a patient with minor body dysfunctions from 10% to 30%, moderate dysfunctions from 40% to 60%, pronounced dysfunctions from 70% to 90%, and significantly pronounced dysfunctions of 100%.

In just 3 years (2015 to 2017), 167,529 examinations of citizens were performed in the Russian Federation to establish the degree of OD, which accounted for 6.5% of the total number of examinations. The average degree of OD was 34.9%. The standard error was 0.86, the standard deviation was 7.5, the reliability level (95%) was 1.7, and the coefficient of variation was 21.6%, which indicated a wide dispersion of variants.

An analysis of the decisions of the bureau of sociomedical expertizing in the constituent entities of the Russian Federation showed that the examination of people injured at work as a result of damage to their lower extremities prevailed in the range of examinations and amounts to 16.4% (27,420 cases). Although the average degree of OD is 37.5%, there was a pronounced dispersion of variants (standard error 0.84, standard deviation 7.4, reliability level (95%) 1.7, coefficient of variation 19.7%).

An in-depth analysis of the structure of expert decisions at the Russian Federation’s constituent entities revealed that the coefficient of variation was the highest when 20% and 50% of OD were established (71.6% and 87.0%, respectively). In cases of minor body dysfunctions, 20% of the ODs are established if the patient can perform work with a decrease in the volume of professional activity by 1/5 of the previous load. Difficulties in verifying a possible decrease in the volume determine the subjective nature of decisions. So, with a comparable number of examinations in the Astrakhan and Ivanovo regions, the decision to establish the degree of OD at the level of 20% is made in 25.4 and 1.7% of cases, respectively. A similar situation oc-

Table 1. Current and proposed criteria for assessing the degree of occupational disability

OD degree	Current edition	Proposed edition
10%	The ability to perform special work with a decrease in the volume of professional activity by 1/10 of the previous workload, in the presence of minor functional body impairments	The possibility of professional activity with a decrease in qualification and/or a decrease in the amount (intensity) of work, but without the need to change working conditions and/or create a special workplace, in the presence of minor functional body impairments
20%	The ability to perform special work with a decrease in the amount of professional activity by 1/5 of the previous workload, in the presence of minor functional body impairments	The possibility of professional activity without qualification reduction and reduction of the amount (intensity) of work, but in case of the need to change working conditions, in the presence of minor functional body impairments
30%	The ability to perform special work with a decrease in qualification by one rating category or with a slight decrease in the amount of professional activity (a decrease in the output rate by 1/3 of the previous workload) or the ability to perform unskilled physical labor with a decrease in the category of work by one category of intensity, in the presence of minor functional body impairments	The possibility of professional activity with a decrease in qualification and/or a decrease in the amount (intensity) of work, if it is necessary to change working conditions, or in case of impossibility of continuing professional activity, in the presence of minor functional body impairments
40%	The ability to perform special work with a decrease in the number of production activities or with a decrease in qualification by two rating categories, or using professional knowledge, skills and abilities, but with a decrease in qualification by two rating categories, or the ability to perform unskilled physical labor with a decrease in the category of work by two categories of intensity, in the presence of moderate functional body impairments	The possibility of professional activity with a decrease in qualification and/or decrease in the amount (intensity) of work, but without the need to change working conditions and/or create a special workplace, in the presence of moderate functional body impairments
50%	The ability to perform special work with a decrease in qualification by three rating categories or with a decrease in the amount of production activity (by 0.5 rate) or the ability to perform unskilled physical labor with a decrease in the category of work by three categories of intensity, in the presence of moderate functional body impairments	The possibility of professional activity without qualification reduction or reduction in the amount (intensity) of work, but in case of the need to change working conditions and/or create a special workplace, in the presence of moderate functional body impairments
60%	The ability to perform special work with a decrease in qualification by four rating categories, or work using professional knowledge, skills, and abilities, but with a decrease in qualification by four rating categories, or the ability to perform unskilled physical labor with a decrease in the category of work by four categories of intensity, in the presence of moderate functional body impairments	The possibility of professional activity with a decrease in qualification and/or a decrease in the amount (intensity) of work in case it is necessary to change working conditions and/or create a special workplace, or the impossibility of continuing professional activity, in the presence of moderate functional body impairments
70%	The ability to perform work under specially created working conditions, in the presence of pronounced functional body impairments	The possibility of professional activity without qualification reduction or reduction of the amount (intensity) of work at special workplaces, in the presence of pronounced functional body impairments
80%	The ability to perform work of lower qualifications under specially created working conditions, considering professional knowledge and skills, in the presence of pronounced functional body impairments	The possibility of professional activity with a decrease in qualification or a decrease in the amount (intensity) of work at special workplaces, in the presence of pronounced functional body impairments
90%	—	The possibility of professional activity with a decrease in qualification and amount at special workplaces with significantly pronounced functional body impairments
100%	Total loss of the ability for professional activity, including under specially created industrial or other working conditions, with significantly pronounced functional body impairments	Total loss of the ability to perform professional activities, including at special workplaces, with significantly pronounced functional body impairments

curs with the establishment of 50% of OD in the presence of moderate dysfunctions of the body (18% of cases in the Republic of Adygea and 3.5% in the Republic of Kabardino-Balkaria with a comparable total number of examinations).

Factors can hypothetically influence the severity of the consequences of injuries of the lower extremities such as the quality and availability of medical care, the general nature of production (industrial/agricultural) in the Russian Federation's constituent entity, and other issues. Hearing loss in patients injured at work in the vast majority of cases is associated with the exposure to noise exceeding the maximum permissible levels [7], and, according to the literature, is practically not treatable [8], which excludes the possible influence of the nature of production, quality, and availability of medical care in a specific entity of the Russian Federation on the severity of the disease.

The degree of OD, as a result of the development of sensorineural hearing loss, was assessed in 12,826 cases, which is 7.6% of the injured patient examinations. With an average value in the Russian Federation of 25.5% [standard error 0.76, standard deviation 6.5, reliability level (95%) 1.5], the coefficient of variation was 25.6%, which indicates a high dispersion of variants. In 83.0% of examined cases, minor disorders of the body functions were revealed in the patients injured at work, and from 10% to 30% of the OD were established. The greatest variability was also noted when 20% of OD was established. So, in 13 constituent entities of the Russian Federation, this degree of OD was not established at all, and in 11 constituent entities, it was established in more than 30% of examinations. This also suggests a high level of subjectivity in assessing the nature of professional activity before and after the occurrence of an insured event.

Based on earlier information, the authors proposed to change the methodology for assessing professional factors, considering new requirements to ensure reasonable adaptations of workplaces for handicapped and disabled patients. Adaptations of the workplace depended on the severity of the dysfunction and the presence of medical contraindications. They may include a decrease in the amount (intensity) of work and a change in working conditions. Adaptations should enable individuals to continue professional activity in the presence of medical contraindications, adjust the organization of work, work schedules, and divide the production tasks into basic components. These adaptations should enable them to continue professional activities with a decrease in qualifications (Table 1), and create a special workplace.

The examination of the degree of OD using the current and proposed criteria in 2018 was performed in two regions, the Stavropol Territory (167 examinations) and the Sverdlovsk Region (451 examinations). The average degree of OD using the current criteria was 35.5% in the Stavropol Territory and 26.3% in the Sverdlovsk Region (standard deviation 6.6, coefficient of variation 21.25%). However, when the proposed criteria were used, it was 28.5% and 25.6%, respectively (standard deviation 2.0, coefficient of variation 7.43%). The differences in the coefficients of variation are significant ($20.74 > 3.009$). Therefore, the proposed criteria provide a higher reproducibility of the results with the uniformity of decisions made in similar expert cases.

The need to make a detailed assessment of the severity of qualifications decreases by a strictly defined number of categories or the amount of work performed in certain shares. This is because the limited capabilities to objectify the proposed criteria leads to high variability in the decisions made [9]. Particular difficulties arise during the examination of people who have terminated working activity at the time of the examination or who are employed in another specialty. For example, an aircraft pilot with sensorineural hearing loss within the limits of insignificant body dysfunctions in the Sverdlovsk Region, according to the established practice, is categorized with 10% OD. At the same time, in the Stavropol Territory, it corresponds to 30%. However, both decisions have the right to exist and can be justified by considering the current criteria. When using the proposed criteria, the assessment will be unambiguous. It will ensure the establishment of the degree of OD at the level of 20%, since the presence of minor sensory impairments does not affect the qualifications and productivity of the patient, but requires rational employment except for conditions such as exposure to noise and work at height.

Based on earlier information, it is necessary to create a unified expert approach to establish a particular degree of OD, considering the professional factor. This will enable not only a reduction in social tension among injured patients but also the minimization of possible violations of this population's rights by organizations that participate in determining the amount and assignment of cash benefits (healthcare facilities, institutions of sociomedical expertizing, the Social Insurance Fund).

CONCLUSIONS

1. The high variability of expert decision-making is noted when determining the degree of OD in various constituent entities of the Russian Federation in accordance with the current criteria. The

greatest variability was revealed when 20% and 50% of the OD were established.

2. The high variability of the decisions made during the examination is associated with imperfections in the methodology and criteria for assessing injured people's professional activities, which do not exclude the possibility of making various decisions on similar expert cases.

3. The use of the criteria proposed by the authors enables the ensurance of a higher reproducibility of results and reduction of possible corruption risks when providing guarantees and compensation to patients injured at work.

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