

RETROSPECTIVE EVALUATION OF MEASURES IN THE FIELD OF OCCUPATIONAL HEALTH SERVICES DURING THE COVID-19 EPIDEMIC

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SUMMARY

Objectives: In the Czech Republic, employers and employees are bound by legal regulations that ensure occupational health and safety. These regulations are based on international conventions of the International Labour Organization and directives of the European Parliament and Council and have long been incorporated into Czech legislation. During the COVID-19 epidemic, emergency and crisis measures led to a limitation of occupational health examinations (OHEs) in the Czech Republic, which represented a significant disruption of the occupational health and safety system. The aim of the study was to assess the impact of these measures in order to find the right model for providing occupational health services in similar situations in the future.

Methods: The method used was a survey, with participants including representatives of employers, state organizations, and employees (trade unions).

Results: Participants from all three groups showed differing views on limiting OHEs during emergencies. While representatives of public administration and employers were generally open to postponing or adjusting pre-employment or periodic OHEs for non-hazardous work, the majority consistently opposed any limitation of OHEs for hazardous work. Statistical differences were observed particularly in attitudes toward future regulation of OHEs during epidemics.

Conclusions: The dominant conclusion of the survey is a strong recommendation against limiting initial occupational health examinations for jobs with occupational risks and in high-risk work categories.

Key words: occupational health protection, occupational health examination, epidemic, COVID-19, occupational health services

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INTRODUCTION

Employers and employees in the Czech Republic are bound by Czech law, international conventions, and European Union (EU) regulations that establish occupational health and safety rules patterned after International Labour Organization (ILO) conventions or European Parliament and Council directives (1, 2). During the COVID-19 epidemic, health care was largely focused on managing the treatment of large numbers of COVID-19 patients, which reduced the availability of other health services. As a result, there was some re-profiling of health care. One example was the reduction of occupational health examinations (OHEs) in occupational health services under Act No. 373/2011 Coll., on Specific Health Services.

OHEs assess the individual health status of workers or job applicants and their medical fitness for a particular job. Before the COVID-19 epidemic, they were mandatory for all employees, with the scope and frequency of examinations depending mainly on the level of occupational health risk. Emergency and crisis

measures during the COVID-19 epidemic in the Czech Republic were in line with European recommendations (3) and aimed at reducing the risk of disease transmission from ill to healthy persons and relieving the healthcare service, especially at the first line of contact.

The present study aimed to identify and analyse the views of all representatives of social dialogue in the field of occupational health and, following on from the author's other work, which also focused on the evaluation of epidemic control measures in relation to occupational health services during the COVID-19 epidemic (4, 5). It is intended to contribute to the possible development of optimal guidelines for any similar situations in the future.

MATERIALS AND METHODS

During the study period, from January 2020 to September 2021 (21 months), emergency and crisis measures of the Ministry of Health and the Government of the Czech Republic allowed

(but did not impose an obligation) to deviate from the proper conduct of pre-employment and periodic OHEs in various job categories according to Act No. 258/2000 Coll., on the Protection of Public Health and Amending Certain Related Acts (6). In the case of pre-employment OHEs for non-hazardous jobs, these measures allowed the assessment and certification of the applicant's medical fitness for work to be replaced by an affidavit. For a certain albeit short period of time, it was even possible not to conduct pre-employment OHEs even for hazardous jobs or occupational risks pursuant to Decree No. 79/2013 Coll., on the Implementation of Certain Provisions of Act No. 373/2011 Coll., on Specific Health Services. In the case of periodic OHEs, the measures allowed to prolong the validity of the existing certificate and to postpone the examination. Under cumulative measures, the postponement could be up to 15 months after the regular date (7–9).

In order to evaluate the measures taken, a questionnaire survey was conducted in October and November 2021, accompanied by a letter from the Ministry of Health. The questions were formulated by a group of occupational health experts, part of the Ministry's working groups for consultation and preparation of epidemic control measures, and the so-called central steering team. The questions were tested as part of a pilot survey to assess the impact of government measures during the epidemic, as well as proposed future measures regarding OHEs from the perspective of occupational physicians (10).

Participants were asked to answer open-ended questions about the quality of the measures, focusing on their necessity, clarity, impact on the occupational health and safety system, potential future applicability, and impact on perceived importance and necessity of OHEs for both hazardous and non-hazardous work (Table 1).

The participants were experts from the three parties of social dialogue in the fields of occupational health and economic and social development of organizational culture, who were also part of the Ministry of Health's central steering team for discussing epidemic control measures throughout the COVID-19 period. The participants were divided into three groups reflecting the tripartite and social dialogue (5), that is, representatives of public adminis-

tration, employers and employees. The selection of respondents representing the views of entire institutions corresponds to the mandatory commenting bodies as defined by the Government's legislative rules for legislative drafting (11). These rules, established by Government Resolution No. 47 of 16 January 2018, designate representative institutions responsible for protecting public, professional and economic rights and interests.

The first group consisted of representatives of the state and primary care, that is, ministries and their inspectorates and research organizations responsible for occupational health. These included public health authorities in Prague and in the country's regions, the Ministry of Industry and Trade, the Occupational Safety Research Institute, the State Labour Inspection Office, and the Association of General Practitioners of the Czech Republic, which plays a key role in the provision of primary health care (a total of 18 institutions) (12). Representatives of primary health care formed an association representing 90% of all general practitioners in the Czech Republic (13, 14). The position of the representatives of occupational health service providers was published separately by the author (10).

The second group included representatives of employers from three employers' associations, the Czech Chamber of Commerce, the Confederation of Industry of the Czech Republic, and the Confederation of Employers' and Business Associations of the Czech Republic.

The third group were employee representatives from national trade unions of workers in the energy and chemical industry, the mining, geology and oil industry, the construction industry, health and social care, the transportation industry, and from the federation of independent trade unions.

The return rate of the questionnaire survey, which was distributed through the Ministry of Health, was 100%. The responses were processed using the semantic analysis method. Each unit of meaning was coded on a four-point scale (zero to three) (15), and the values obtained were further sorted and analysed.

The responses were analysed using descriptive statistics, and Fisher's exact test was conducted to assess the statistical significance of the differences.

Table 1. Questions in the survey

Questions:	
1	Was the clarity of emergency and crisis measures of the Ministry of Health and the Government of the Czech Republic regarding the conduct of occupational health examinations adequate?
2	Was the Ministry's external communication appropriate in terms of the form and sufficiency of the information provided?
3	Do you consider it appropriate to restrict or set specific conditions for the conduct of occupational health examinations in the future, assuming a similar epidemiological situation (e.g., in the event of another wave of COVID-19)?
4	If you consider it appropriate to restrict occupational health examinations, which examinations would you restrict?
5	Would you find it acceptable to limit occupational health examinations for hazardous work under similar conditions as those set out in the emergency period?
6	Describe any obvious difficulties you are aware of in applying the emergency and crisis measures, or indicate any negative/positive consequences of the measures.
7	Were the undiscussed and unsystematic intrusions of the state into the system of occupational health and safety and risk management right?
8	In your opinion, were the 30- and 90-day deadlines for conducting the missing occupational health examinations sufficient?
9	In your opinion, has the perception of the importance of occupational health examinations changed as a result of conducting occupational health examinations in a specific manner?
10	Are you aware of the fact that fitness-to-work medical assessment is enshrined in international conventions?

Table 2. Summary of individual responses from all three groups of participants

Questions/institutions	1	2	3	4	5	6	7	8	9	10
A	1	3	3	3	1	1	1	2	1	1
B	2	3	3	3	1	3	1	3	0	3
C	3	3	3	3	1	1	2	3	0	3
D	3	3	3	1	1	3	1	3	1	3
E	2	3	3	2	2	3	3	3	1	3
F	3	3	3	1	1	3	1	3	1	3
G	3	3	3	2	2	3	1	1	1	3
H	3	3	3	1	1	3	1	3	0	3
I	3	3	2	2	1	1	1	3	1	3
J	3	3	3	1	1	1	1	3	1	3
K	2	1	2	1	2	3	2	0	1	3
L	3	2	1	0	1	3	2	2	0	3
M	3	1	1	0	3	3	1	3	0	3
N	1	2	3	2	2	2	1	3	1	3
O	3	2	1	0	1	3	1	0	1	3
P	3	3	3	2	1	1	2	3	1	3
Q	1	1	3	2	1	3	0	1	1	3
R	3	3	2	2	1	3	1	0	1	3
S1	2	2	3	1	2	2	3	2	1	3
S2	3	3	3	2	1	1	1	2	1	3
S3	0	0	3	1	3	0	0	1	0	3
T1	3	1	1	0	1	3	1	2	3	3
T2	2	1	1	1	1	3	1	3	1	3
T3	3	3	2	1	1	3	1	3	1	3
T4	1	1	2	1	1	3	1	1	1	3
T5	3	2	1	0	1	3	1	3	1	3
T6	2	3	1	0	1	1	1	3	3	3
T7	1	1	1	0	1	1	1	0	3	3

Responses to questions 1–10 except for 4 and 6: yes (3), yes partly (2), no (1), don't know (0)

Question 4: pre-employment OHEs (3), periodic OHEs (2), pre-employment + periodic OHEs (1), no OHEs (0)

Question 6: no impacts (3), positive impacts (2), negative impacts (1), don't know (0)

Letters A to R – regional public health authorities, S1 to S3 – representatives of employers, T1 to T7 – representatives of employees

RESULTS

Participants' responses to questions 1–10 are shown in Table 2.

In their responses to questions 1 and 2, the majority of participants from the group of state representatives rated both the clarity of emergency measures and communication, including the sufficiency of information, positively or at least partially positively (83.3%). Most employee representatives rated the clarity of the measures positively or partially positively (71.4%), but communication and information were considered insufficient by the majority (57.1%). In the three-member group of employer representatives, both parameters were rated positively by one participant, partially positively by another, and ambivalently by the third.

Participants in all three groups responded differently ($p=0.004$) to question 3 on whether specific conditions should be set for the

conduct of OHEs during infectious disease epidemics (Table 3). The vast majority of employee representatives (71.4%) were against setting specific conditions even for situations similar to the COVID-19 epidemic, with only two participants being partially in favour of regulations. Employer representatives unanimously supported regulations in the conduct of OHEs, while the largest group of state representatives had a positive or partially positive attitude toward regulations (83.3%), with only three out of 18 participants (16.7%) preferring no regulations.

Question 4 focused on which OHEs would be appropriate to restrict in a future situation similar to the COVID-19 epidemic. State representatives would again accept restrictions on either periodic examinations (38.9%) or pre-employment examinations (16.7%) or both types of OHEs (27.7%). Employer representatives would accept restrictions on periodic OHEs, and two out of three would also accept simultaneous restrictions on pre-employment

Table 3. Summary of responses from all three groups of participants

Ques-tion No.	Regional public health authorities n = 18 n (%)				Representatives of employers n = 3 n (%)				Representatives of employees n = 7 n (%)				p-value
	Responses	3	2	1	0	3	2	1	0	3	2	1	0
1	12 (66.7)	3 (16.7)	3 (16.7)	0	1 (33.3)	1 (33.3)	0	1 (33.3)	3 (42.9)	2 (28.6)	2 (28.6)	0	0.266
2	12 (66.7)	3 (16.7)	3 (16.7)	0	1 (33.3)	1 (33.3)	0	1 (33.3)	2 (28.6)	1 (14.3)	4 (57.1)	0	0.059
3	12 (66.7)	3 (16.7)	3 (16.7)	0	3 (100)	0	0	0	0	2 (28.6)	5 (71.4)	0	0.004
4	3 (16.7)	7 (38.9)	5 (27.8)	3 (16.7)	0	1 (33.3)	2 (66.7)	0	0	0	3 (42.9)	4 (57.1)	0.13
5	1 (5.6)	4 (22.2)	13 (72.2)	0	1 (33.3)	1 (33.3)	1 (33.3)	0	0	0	7 (100)	0	0.176
6	12 (66.7)	1 (5.6)	5 (27.8)	0	0	1 (33.3)	1 (33.3)	1 (33.3)	5 (71.4)	0	2 (28.6)	0	0.083
7	1 (5.6)	4 (22.2)	12 (66.7)	1 (5.6)	1 (33.3)	0	1 (33.3)	1 (33.3)	0	0	7 (100)	0	0.12
8	11 (61.1)	2 (11.1)	2 (11.1)	3 (16.7)	0	2 (66.7)	1 (33.3)	0	4 (57.1)	1 (14.3)	1 (14.3)	1 (14.3)	0.007
9	0	0	13 (72.2)	5 (27.8)	0	0	2 (66.7)	1 (33.3)	3 (42.9)	0	4 (57.1)	0	0.035
10	17 (94.4)	0	1 (5.6)	0	3 (100)	0	0	0	7 (100)	0	0	0	1

Responses to questions 1–10 except for 4 and 6: yes (3), yes partly (2), no (1), don't know (0)

Question 4: pre-employment OHEs (3), periodic OHEs (2), pre-employment + periodic OHEs (1), no OHEs (0)

Question 6: no impacts (3), positive impacts (2), negative impacts (1), don't know (0)

Letters A to R – regional public health authorities, S1 to S3 – representatives of employers, T1 to T7 – representatives of employees

OHEs. A slim majority of employee representatives opposed any restrictions on OHEs (57.1%).

In response to question 5, which focused on the acceptability of restricting OHEs for hazardous work as defined by the Act on the Protection of Public Health, the majority of state representatives responded negatively (72.2%), with only one of them supporting future restrictions for hazardous work (5.6%). Employee representatives clearly disagreed with restricting OHEs for hazardous work (100%). The three employer representatives each had a different opinion on this issue, ranging from restriction to partial restriction to no restriction. Thus, there was overwhelming agreement (89.3%) across all participant groups not to restrict OHEs for hazardous work.

As can be seen from their responses to question 6, state representatives either were not aware of any obvious difficulties in applying the emergency or crisis measures (61.1%) or noted negative consequences (27.8%); only two participants considered them positive (11.1%). Employee representatives reported either no consequences (71.4%) or negative ones (28.6%). Three employer representatives gave different answers: one of them reported positive consequences, another negative consequences, and the third response was “don't know”. In addition, they claimed that the period of time between the validity and the effect, or *vacatio legis*, of the measures had been rather short and employers had not had enough time to implement them into their internal procedures. They also stated that registering health service providers, both primary care providers and specialists, had provided their services on a limited basis (remotely or during modified office hours), which had resulted in difficulties in obtaining an extract from one's medical records or a partial expert opinion to assess one's fitness for work. Finally, they reported that health service providers had refused to conduct OHEs, even for hazardous work and beyond the wording of emergency or crisis measures.

The majority of participants in all three groups (20 out of 28, 71.4%) considered the undiscussed intrusions of the state into the system of occupational health and safety and risk management

to be wrong, as can be seen from their responses to question 7. Neither the legislation of the Czech Republic nor that of the ILO or EU member states defines an alternative way of conducting OHEs.

Question 8 asked about the deadline for deferred OHEs that had not been conducted during the period of the crisis and emergency measures. A slim majority of all participants (53.6%) strongly agreed that the deadlines of 30 and 90 days after the end of the state of emergency had been sufficient. In contrast, 14.3% of all participants disagreed.

In response to question 9, 67.9% of participants from all three groups agreed that the perception of the importance of OHEs had not changed during the study period. Only 10.7% of all participants disagreed.

The supplementary question (question 10) confirmed the awareness of the existence of international ILO conventions across the sample (96.4%).

DISCUSSION

According to Diviák et al., many disputes about the scientific understanding of the COVID-19 epidemic stem from the fact that each side favours one view and considers others to be fundamentally wrong. However, these views are often not mutually exclusive and each focuses on a different aspect of a complex phenomenon – the epidemic (16). The aim of this paper, as in previous articles by the author (10, 17), was to conduct a multilateral, interdisciplinary semantic analysis of the opinions of experts and authorities affected by the epidemic control measures and to ascertain their views on the possible implementation of a similar mechanism in the case of future outbreaks of respiratory diseases.

For a long time, the COVID-19 epidemic placed increased demands on health service providers and health care coordination, as agreed by Qiu et al. (18) and Tuček and Vaněček (19), in a system that entailed many adjustments caused by epidemic control, crisis, and emergency measures (20). Throughout the

period from 30 January 2020 to 5 May 2023, more than 600 epidemic control measures were introduced in the Czech Republic alone. This period brought, among other things, a change in the approach to legislation, as Chiru notes in his final report to the European Parliament (21). As an example, he describes the situation in France, whose parliament declared a state of emergency in the health sector on an ad hoc and *ex novo* bases. This set a less stringent time limit for its extension by the parliament than under the existing state of emergency rules and authorized the country's executive to issue regulations in several policy areas. In response to the COVID-19 epidemic, and due to a reordering of priorities or the objective consequences of the epidemic, health systems also underwent changes (17). It was therefore necessary to respond to the increased demand for health services and the increased incapacity of health workers (22).

The aim of the present study, which is part of a broader evaluation process, was to assess the measures implemented in the Czech Republic. A similar assessment approach was already used during the COVID-19 epidemic, for example in the UK (23). There, the subjects and institutions were surveyed that maintained occupational health protection throughout the period of the public health emergency of international concern, that is, when COVID-19 had a pandemic character and was treated as such from the perspective of public health protection. In the Czech Republic, the epidemic control measures were implemented to slow the spread of SARS-CoV-2, prevent overburdening of health systems, and minimize the socioeconomic impact of the COVID-19 epidemic, as stated in the justifications for some of the emergency and crisis measures, which were often based on materials from the Centers for Disease Control and Prevention (CDC) (24) or the European Centre for Disease Prevention and Control (ECDC) (25). The emergency measures introduced in March 2020, suspending or restricting OHEs, aimed, among other things, at freeing up the capacity of health service providers (26). The majority of occupational health service providers surveyed agreed with this effect (10).

Epidemic control measures, which were also intended to prevent the spread of SARS-CoV-2, were generally recommended by the ECDC (27), CDC (24), European Agency for Safety and Health at Work (EU-OSHA) (22), or Swedish Work Environment Authority (28). Moreover, a report by the ILO and Organisation for Economic Co-operation and Development (OECD) on COVID-19 recommends that member states pay attention to social dialogue alongside occupational health protection, including discrimination, stigma, and exclusion (29, 30). Therefore, the report emphasizes the need for compliance with occupational health and safety rules. Examples were shared of good practices to maintain the quality of occupational health protection. Safe Work Australia, the federal government's national tripartite policy body, has promulgated 10 principles of good work design (31). In Turkey, the Directorate General (Ministry of Family, Labour and Social Services) produced sample checklists, video guides, and posters to maintain adequate occupational health protection (29, 32). The challenge during the epidemic was to find the right balance between occupational health and safety and epidemic control measures. The EU-OSHA recommended that member states develop workplace measures beyond basic occupational health and safety measures (22).

A positive finding is that the responses of the representatives of regional public health authorities were consistent. As these

institutions are directly controlled by the Ministry of Health, there is a unified line of management and implementation of public health policies, including occupational health and safety in the Czech Republic. The present study also included a question on whether the participants were aware of the ILO's international conventions on the assessment of fitness for work. All three groups of participants (i.e., representatives of employers, state organizations and employees) uniformly answered that they were familiar with the international conventions. The conclusions of the retrospective evaluation of the emergency and crisis measures clearly indicate that it is not advisable to restrict OHEs in any way in the future, especially for hazardous work. In the Czech Republic, this conclusion was reached not only by the participants in the present study, but also by physicians providing occupational health services (14). This would be in line with the ILO/OECD recommendations, ILO's international conventions, and EU regulations. However, this is not at odds with the fact that Massetti et al. (33) or Swedish Work Environment Authority (28) report on the possibility of modified OHEs, for example by remote means (via telemedicine).

Occupational health examinations are medical services that must be provided by a provider of occupational health services under a contract with the employer. The Health Services Act (34) allows for the so-called remote provision of health services, but only in justified cases, if it corresponds to the type of service and with the prior consent of the patient. However, in the case of occupational health examinations, this remote form generally does not meet the requirements for professional competence and a comprehensive assessment. Therefore, the present legal framework of the Czech Republic does not support telemedicine in this context.

CONCLUSIONS

Participants overwhelmingly agreed that in a similar epidemiological situation posing a threat to public health, OHEs for hazardous work should be maintained. Employer representatives in the retrospective evaluation tended to be more supportive of emergency adjustments to OHEs during an epidemic, while employee representatives were opposed to the introduction of specific conditions, even in situations similar to the COVID-19 epidemic. Assessing the fitness of an employee for a particular job is an essential element of occupational health and safety risk assessment and management.

Conflicts of Interest

None declared

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