

# ORIGINAL ARTICLE / ОРИГИНАЛНИ РАД

# **COVID-related incentive payments to healthcare workers**

Irina Bocharova<sup>1</sup>, Alexander Rymanov<sup>2</sup>

<sup>1</sup>Oryol State Agrarian University named after N.V. Parakhin, Oryol, Russia;

<sup>2</sup>Russian Presidential Academy of National Economy and Public Administration, Novosibirsk, Russia

#### **SUMMARY**

**Introduction/Objective** The study estimates the associations between the key pandemic indicators and the allocation of COVID-19-related bonus and welfare payments to Russian healthcare workers. **Methods** The study uses regression analysis.

**Results** The study examines two consecutive types of COVID-19-related bonus payments: (1) incentive payments (in 2020) and (2) welfare payments (in 2020–2022). Concerning incentive payments (type 1), the study supports hypotheses regarding the association between the number of persons infected with COVID-19 in a relevant region and the actual/estimated amount of budget transfers to a relevant region for bonus payments to medical workers (a) for special working conditions and additional workload and (b) for performing particularly important work. As for welfare payments (type 2), the study supports hypotheses regarding the association between (1) COVID-19 cases, (2) COVID-19 recoveries, and (3) the fiscal year-end closeout and the amount of welfare payments.

**Conclusion** The main channel for financing payments to medical workers is a special welfare payment through the system of the Social Insurance Fund of the Russian Federation. This source exceeds the estimated total transfers and subsidies for similar purposes in 2020.

The study tests hypotheses regarding the association between the key pandemic indicators and the size of various types of budget transfers for bonus and welfare payments to medical workers.

Keywords: novel coronavirus infection; welfare payment; doctors; nurses; junior medical staff

#### INTRODUCTION

Incentives for health workers in connection with the spread of the novel coronavirus infection COVID-19 has been provided by the Russian authorities almost from the first months of the pandemic.

The maximum peak number of medical workers involved in the fight against COVID-19 was 550,000 people, including doctors – 156,000 people, a middle medical staff – 318,000 people, a junior medical staff – 76,000 people [1].

Russian regulations regarding the allocation of transfers to medical workers describe the methods of allocation transfers to the regions. The regulatory framework in this area has already been partially updated: some of the regulations in force in 2020 have lost their force [2, 3], other regulations, in contrast, have either replaced or expanded the scope of regulation of the issue under consideration, or continue to be in force [4, 5].

Academic papers reflect the issues under consideration.

# Best practices for paying COVID-19 bonuses to healthcare workers

Williams et al. [6] review the measures taken by European countries to pay bonuses to health workers involved in countering COVID-19. Payments are made either in the form of a one-time bonus, or in the form of monthly bonus payments. Reed [7] compares the level of bonuses paid to health workers and concludes that in the UK, doctors are paid more and nurses are paid at the OECD average.

Besley et al. [8] make policy recommendations to the UK government. They argue for the advisability of direct payments to health workers, dividing workers into those directly involved with the coronavirus and those not directly involved (GBP 1000 and GBP 500, respectively). Adeyemo et al. [9] report on the results of interviews with 45 health workers in the U.S. The study contains both positive and negative reactions from workers to bonuses received for emergency working conditions during the pandemic. Kovaleva et al. [10] study the stimulating component of remuneration in the healthcare institution.

Giubilini and Savulescu [11] advocate ethical principles (autonomy, fairness, responsibility, and utility) for bonus payments to healthcare workers for their work during the pandemic.

# Bonuses for nursing staff

Gray et al. [12] identified motivators for nurses in the process of providing healthcare during the pandemic. A survey of 110 nurses at the

**Received • Примљено:** December 21, 2022

Revised • Ревизија: February 11, 2023

**Accepted • Прихваћено:** February 28, 2023

Online first: March 3, 2023

### Correspondence to:

Alexander RYMANOV RANEPA Academy Nizhegorodskaya ul. 6 Novosibirsk 630102, Russia **rymanov-ay@ranepa.ru**  U.S. found that respondents were least motivated by hazardous work bonuses. Bitencourt et al. [13] examine the role of nurses in counteracting pandemic in a philanthropic clinic in Brazil and point to the payment of incentive bonuses. Hersh [14], based on a survey of nurses at U.S. hospitals, assesses the negative impact of COVID-19 on their working conditions.

#### **Rural and remote areas**

Strasser and Strasser [15] express concern that rural communities have limited access to resources and health services amid the pandemic. They advocate the need to stimulate health workforce in rural and remote areas in the form of providing guaranteed income, housing, various compensation packages, payment of bonuses and retention payments. Shrestha and Kunwar [16] report that frontline health workers in Nepal have not received government-promised payments and compensations for working amid the pandemic. In private clinics, the situation is even worse: medical workers are forced to either accept a pay cut or quit.

#### Medical students' motivational statements

Astorp et al. [17] conducted a survey of medical students at one of the Danish universities. The study assesses the motivational statements for their involvement as emergency workers. The students ranked 'salary' as one of the last motivational statements (10th out of 11 motivational statements).

# Local practices for financing payments to health workers

Sumin et al. [18] consider the regulation of incentive, welfare, and insurance payments to medical workers in the context of COVID-19. Kadyrov [19] considers the legal regulation of special welfare payments to medical personnel. Shalberkina [20], Gubina [21], Puzin et al. [22] consider the legal regulation of welfare support for medical workers during the period of the novel coronavirus infection. Kadyrov and Chililov [23] consider the issues of informatization and information exchange in the process of supporting the implementation of welfare payments to medical workers in connection with COVID-19. Anisimova et al. [24] consider the implementation of social benefits paid to employees of medical organizations and employees of social service organizations in connection with COVID-19.

# Underpayment and late payment of incentive payments to medical personnel

In connection with complaints from medical personnel about problems in receiving incentive payments in 2020, the Accounts Chamber of the Russian Federation, together with the control and accounting bodies of the constituent entities of the Russian Federation, conducted unscheduled

inspections in 2020 [25]. As a result of the inspections, underpayments of 330.6 million rubles (\$4.49 million) to medical workers were identified.

The main indicators of disease incidence recorded by sectoral agencies and organizations are the number of COVID-19 cases, the mortality rate, and others [26]. However, the use of these indicators in planning and allocating payments to health workers is somewhat difficult because they are not known in advance. The use of predictive statistical models (growth dynamics) that predict these indicators for planning and allocating incentive payments is also of little practical use, as these models have been (and continue to be) periodically reviewed and adjusted. In Russian practice, the historical level of average wages in a given region was used at the initial stage of planning the financing of payments to healthcare workers. As data become available on the current values of the COVID-19 indicators, retrospective estimates of the associations between these indicators (COVID-19 cases, recovering COVID-19 patients) and the volume of payments to health workers become possible. This study therefore aims to make such estimates.

#### **METHODS**

The study uses regression analysis in the field of health financing.

Allocations were set as a percentage of the average monthly salary in the region concerned (Table 1).

**Table 1.** Budget transfers for incentive payments (expressed as a percentage of the average monthly salary)

	Types of medical care			
Healthcare professionals	Emergency medical care	Primary healthcare	Specialized medical care in an inpatient setting	
Doctors	80	80	100	
Middle medical staff	40	40	50	
Junior medical staff	20	20	30	

The study is based on an analysis of observational data on payments to healthcare workers related to the coronavirus pandemic. Official data on estimated and actual payments to health workers are used in the study [2, 27, 28, 29].

#### Hypotheses to test

The study tests the following hypotheses (Table 2).

### Hypothesis 1

H<sub>1</sub>: the association between the number of people infected with COVID-19 in a relevant region in 2020 and the estimated amount of budget transfers to a relevant region for bonus payments to medical staff for special working conditions and additional workload in 2020 is statistically significant.

152 Bocharova I. and Rymanov A.

Table 2. Study hypotheses description

ses	Variables						
the							
Hypotheses	Туре с	of budget payr	ment		Independent		
		Bonus paym	ents (2020)				
	Budget transfers to region for bonus p medical wo	ayments to	Estimated or actual type of amount				
	for special working conditions and additional workload for performing critical work		estimated	actual			
Н,	+		+				
H <sub>2</sub>	+			+	the number of		
H <sub>3</sub>	+		+		persons infected with COVID-19 in		
H <sub>4</sub>		+		+	a relevant region		
H <sub>5</sub>	+	+		+			
	Special V	Velfare Payme	nt (SWP) (20	20–202	2)		
H <sub>6</sub>	the total volume o		+	the number of people infected with COVID-19			
H <sub>7</sub>	of the SWP to med in the whole count calendar mo		+	the number of people recovered from COVID-19			
H <sub>8</sub>				+	the fiscal year- end closeout		

#### Hypothesis 2

H<sub>2</sub>: the association between the number of persons infected with COVID-19 in a relevant region in 2020 and the actual amount of budget transfers to a relevant region for bonus payments to medical workers for special working conditions and additional workload in 2020 is statistically significant.

#### Hypothesis 3

 $\rm H_3$ : the association between the number of persons infected with COVID-19 in a relevant region in 2020 and the estimated amount of budget transfers to a relevant region for bonus payments to medical workers for performing critical work in 2020 is statistically significant.

#### Hypothesis 4

H<sub>4</sub>: the association between the number of persons infected with COVID-19 in a relevant region in 2020 and the actual amount of budget transfers to a relevant region for bonus payments to medical workers for performing critical work in 2020 is statistically significant.

### Hypothesis 5

 ${\rm H_s}$ : the association between the number of persons infected with COVID-19 in a relevant region in 2020 and the actual amount of budget transfers to a relevant region for bonus payments to medical workers (a) for special working conditions and additional workload and (b) for performing critical work in 2020 is statistically significant.

#### Hypothesis 6

H<sub>6</sub>: the association between the number of persons infected with COVID-19 and the total volume of payments of the Special Welfare Payment to medical workers in the whole country in a given calendar month is statistically significant.

#### Hypothesis 7

H<sub>2</sub>: the association between the number of persons recovered from COVID-19 and the total volume of payments of the Special Welfare Payment to medical workers in the whole country in a given calendar month is statistically significant.

### Hypothesis 8

 ${\rm H_g}$ : the association between the fiscal year-end closeout and the total volume of payments of the Special Welfare Payment to medical workers in the whole country in a given calendar month is statistically significant.

Hypotheses 1–5 test the association between key indicators of the pandemic and incentive payments, hypotheses 6–8 test the association

between key indicators of the pandemic and welfare payments (Table 2). The study was approved by the Ethics Committee of the SibMed Medical University (No. 9390) and conducted following the Declaration of Helsinki.

#### **RESULTS**

#### **Hypotheses testing**

Consider testing hypotheses (Figure 1).

# Hypothesis 1

To test this hypothesis, a quadratic regression model was used:

$$y = \beta_0 + \beta_1 x_1 + \beta_{11} x_{11}^2 + \epsilon \tag{1}$$

where y is the share of the estimated amount of budget transfers to a relevant region for bonus payments to medical workers for special working conditions and additional workload in 2020, in the total amount of these transfers in the Russian Federation; x is the share of the number of people infected with COVID-19 in a relevant region in the total number of people infected with COVID-19 in the Russian Federation in 2020.

The fitted regression model is as follows:

$$y = -0.00482817 + 1.56884x_1 - 0.11492 x_{11}^2$$
 (2)

The model as a whole is significant (Table 3).

Table 3. Analysis of variance

Source	Sum of squares	df	Mean square	F-value	p-value, Prob > F
Model	53.49	2	26.74	36.08	< 0.0001
x	2.3	1	2.3	3.1	0.0819
X <sup>2</sup>	5.82	1	5.82	7.85	0.0063
Residual	60.03	81	0.74	-	-

Table 4. Summary of fit

R <sup>2</sup>	0.4712
R <sup>2</sup> adj	0.4581
Adeq precision	32.248
Std. dev.	0.86
Mean	1.19

Table 4 shows that 46% of the variability in the response variable is explained by the independent variable (Table 4, Figure 1).

The hypothesis H, is supported.

#### Hypothesis 2

To test this hypothesis, a quadratic regression model was used:

$$y = \beta_0 + \beta_1 x_1 + \beta_{11} x_{11}^2 + \epsilon \tag{3}$$

where y is the share of the actual amount of budget transfers to a relevant region in the total amount of transfers in the Russian Federation, x is the share of the number of persons infected with COVID-19 in a relevant region in

the total number of persons infected with COVID-19 in the Russian Federation in 2020.

The fitted regression model is as follows:

$$\operatorname{Ln} y = -1.39022 + 1.65447x_1 - 0.16485 x_{11}^2 \tag{4}$$

In this model, both the independent variable and the model as a whole are significant (Table 5).

Table 5. Analysis of variance

Source	Sum of squares	df	Mean square	F-value	p-value, Prob > F
Model	34.24	2	17.12	45.34	< 0.0001
х	8.03	1	8.03	21.26	< 0.0001
X <sup>2</sup>	11.97	1	11.97	31.71	< 0.0001
Residual	30.59	81	0.38		

Table 6. Summary of fit

R <sup>2</sup>	0.5282
R <sup>2</sup> adj	0.5165
Adeq precision	35.487
Std. dev.	0.61
Mean	-0.20

Table 6 shows that 52% of the variability in the response variable is explained by the independent variable.

The hypothesis H, is supported.

# Hypothesis 3

To test this hypothesis, a quadratic regression model was used:

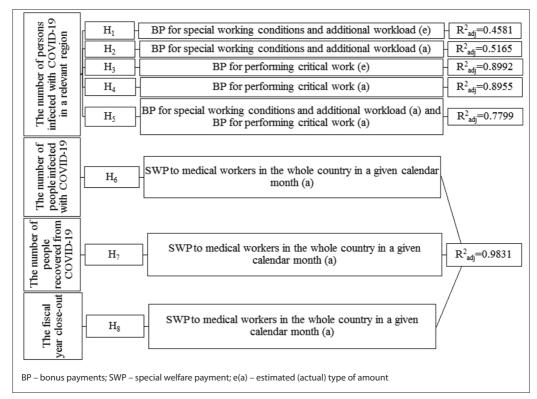


Figure 1. Hypotheses testing

154 Bocharova I. and Rymanov A.

$$y = \beta_0 + \beta_1 x_1 + \beta_{11} x_{11}^2 + \epsilon \tag{5}$$

where y is the share of the estimated amount of budget transfers to a relevant region for bonus payments to medical workers for performing critical work in 2020, in the total amount of these transfers in the Russian Federation; x is the share of the number of people infected with COVID-19 in a relevant region in the total number of people infected with COVID-19 in the Russian Federation in 2020.

The fitted regression model is as follows:

$$y = +0.14615 + 1.06664x_1 - 0.023904 x_{11}^2$$
 (6)

In this model, both the independent variable and the model as a whole are significant (Table 7).

Table 7. Analysis of variance

Source	Sum of squares	df	Mean square	F-value	p-value, Prob > F
Model	176.12	2	88.06	375.74	< 0.0001
х	134.82	1	134.82	575.3	< 0.0001
X <sup>2</sup>	15.22	1	15.22	64.96	< 0.0001
Residual	19.22	82	0.23	-	-

Table 8. Summary of fit

R <sup>2</sup>	0.9016
R² adj	0.8992
Adeq precision	127.737
Std. dev.	0.48
Mean	1.18

Table 9. Analysis of variance

Source	Sum of squares	df	Mean square	F-value	p-value, Prob > F
Model	183.61	2	91.81	361.01	< 0.0001
Х	135.33	1	135.33	532.16	< 0.0001
X <sup>2</sup>	19.44	1	19.44	76.43	< 0.0001
Residual	20.85	82	0.25	-	-

Table 10. Summary of fit

R <sup>2</sup>	0.8980
R <sup>2</sup> adj	0.8955
Adeq precision	122.815
Std. dev.	0.5
Mean	1.18

Table 8 shows that 90% of the variability in the response variable is explained by the independent variable (Table 8). The hypothesis  $H_3$  is supported.

#### Hypothesis 4

To test this hypothesis, a quadratic regression model was used:

$$y = \beta_0 + \beta_1 x_1 + \beta_{11} x_{11}^2 + \epsilon \tag{7}$$

where y characterizes the share of the actual amount of budget transfers to a relevant region for performing critical work, in the total amount of these transfers in the Russian Federation, x is the share of the number of persons infected with COVID-19 in a relevant region in the total number of persons infected with COVID-19 in the Russian Federation in 2020.

The fitted regression model is as follows:

$$y = +0.080773 + 1.14702x_1 - 0.027010x_{11}^2$$
 (8)

In this model, both the independent variable and the model as a whole are significant (Table 9).

Table 10 shows that 90% of the variability in the response variable is explained by the independent variable.

The hypothesis  $H_4$  is supported.

### Hypothesis 5

To test this hypothesis, a linear regression model was used:

$$y = \beta_0 + \beta_1 x_1 + \epsilon \tag{9}$$

where y characterizes the share of the actual amount of budget transfers to a relevant region (a) for special working conditions and additional workload and (b) for performing critical work, in the total amount of these transfers in the Russian Federation, x is the proportion of persons infected with COVID-19 in a relevant region in the total number of persons infected with COVID-19 in the Russian Federation in 2020.

The fitted regression model is as follows:

$$y = +0.23152 + 1.08314 x_1 \tag{10}$$

In this model, both the independent variable and the model as a whole are significant (Table 11).

Table 11. Analysis of variance

	,				
Source	Sum of squares	df	Mean square	F-value	p-value, Prob > F
Model	88.81	1	88.81	295.15	< 0.0001
х	88.81	1	88.81	295.15	< 0.0001
Residual	24.67	82	0.30	-	-

Table 12. Summary of fit

	•
R <sup>2</sup>	0.7826
R² adj	0.7799
Adeq precision	97.853
Std. dev.	0.55
Mean	1.19

Table 12 shows that 78% of the variability in the response variable is explained by the independent variable.

The hypothesis  $H_5$  is supported.

# Hypotheses H<sub>6</sub>-H<sub>8</sub>

To test  $H_6$ – $H_8$  hypotheses, a linear regression model is used:

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_1 x_2 + \beta_5 x_2 x_3 + \beta_6 x_1 x_3 + \epsilon$$
 (11)

where y is the volume of payments of the Special Welfare Payment to medical workers in the Russian Federation as a whole in a given calendar month,

 $\mathbf{x}_1$  is the number of persons infected with COVID-19 in a given calendar month,

 $x_2$  is the number of persons recovered from COVID-19 in a given calendar month,

 $x_3$  is the indicator of the last two months of the fiscal year (the categorical variable describing the fiscal year-end closeout,  $x_3 = 0$  or  $x_3 = 1$ ),

 $x_1x_2$  is the  $x_1x_2$  interaction term,

 $x_2x_3$  is the  $x_2x_3$  interaction term,

 $x_1x_3$  is the  $x_1x_3$  interaction term.

The fitted regression model for the fiscal year-end closeout  $(x_3 = 1)$  is as follows:

$$y^{3} = 284502 - 298.20371 \times x_{1} + 80.33769 \times x_{2} - 0.00276184 \times x_{1} \times x_{2}$$
 (12)

The fitted regression model for the fiscal year (except the months of the closeout)  $(x_3 = 0)$  is as follows:

$$\begin{array}{l} y^3 = 938.32682 + 2.78643 \times x_1 + 10.27625 \times x_2 \\ -0.00276184 \times x_1 \times x_2 \end{array} \tag{13}$$

The power response transformation is used.

In these models, independent variables and interaction terms are significant (Table 13).

Table 13. Analysis of variance

Source	Sum of squares	df	Mean square	F-value	p-value, Prob > F
Model	16770000000	6	2795000000	184.69	< 0.0001
x <sub>1</sub>	4133000000	1	4133000000	273.11	< 0.0001
X <sub>2</sub>	365500000	1	365500000	24.15	0.0003
X <sub>3</sub>	1705000000	1	1705000000	112.66	< 0.0001
X <sub>1</sub> X <sub>2</sub>	88030000	1	88030000	5.82	0.0314
X <sub>1</sub> X <sub>3</sub>	3973000000	1	3973000000	262.51	< 0.0001
X <sub>2</sub> X <sub>3</sub>	311900000	1	311900000	20.61	0.0006
Residual	196800000	13	15130000	-	-
Cor total	16970000000	19	-	-	-

Table 14. Summary of fit

R <sup>2</sup>	0.9884		
R <sup>2</sup> adj	0.9831		
Adeq precision	49.171		
Std. dev.	3890.36		
Mean	17565.94		

Table 14 shows that 98% of the variability in the response variable is explained by independent variables.

The hypotheses  $H_6-H_8$  are supported.

#### **DISCUSSION**

# Inconsistent coverage of health workers with incentive payments in 2020 across regions

The Accounts Chamber of the Russian Federation [25] expresses concern about "significant disparities" (between regions) in the number of medical personnel receiving incentive payments. This is understandable, as the allocation of budget transfers is based on the number of people covered by compulsory health insurance in the respective region of the Russian Federation.

In the first months of the pandemic, in the conditions of insufficient information about the coronavirus itself, lack of time, lack of forecasts on the estimated number of cases in the relevant region of the Russian Federation, the use of this aggregate indicator was quite appropriate. The final recipients of incentive payments (medical workers) were set as a percentage of the average monthly salary in the relevant region of the Russian Federation according to the data for the previous year.

Bonus payments to Russian healthcare workers related to COVID-19 are consistent with general trends in the assignment of additional payments to healthcare workers for extraordinary working conditions in various countries [6]. National healthcare systems use both periodic and lumpsum payments to healthcare workers.

At the same time, this study examined two types of periodic payments to healthcare workers – earlier payments (incentive payments, 2020) and current payments (welfare payments, 2020–2022). The transformation of incentive payments into welfare payments was largely due to differences in their taxation and the more favorable tax status (for healthcare workers as their recipients) of welfare payments.

The results of this study confirm the association between the key pandemic indicators and the volume of incentive and welfare payments.

Remote territories of some countries during the pandemic (at least in the initial period of the pandemic) experienced some limitations in funding for health workers [15, 16]. This study used not only aggregate data at the national level, but also data from individual areas of the country, including remote areas. The findings on the existence of the association between the key indicators of the pandemic and the level of payments are also valid for the remote areas of Russia.

### **CONCLUSION**

The study provides support for hypotheses regarding the association between the key pandemic indicators and the size of various types of budget transfers to cover bonuses and benefits paid to medical staff.

Conflict of interest: None declared.

156 Bocharova I. and Rymanov A.

#### **REFERENCES**

- Ministry of Health of the Russian Federation. On the results of the work of the Ministry of Health of the Russian Federation in 2020 and tasks for 2021, 2021.
- Resolution of the Government of the Russian Federation dated 02.04.2020 No. 415. (has lost its force), 2020. http://pravo.gov.ru
- Resolution of the Government of the Russian Federation dated 29.08.2020 No. 1312 (has lost its force), 2020. http://pravo.gov.ru
- Decree of the President of the Russian Federation dated 06.05.2020 No. 313. "On the provision of additional insurance guarantees to certain categories of medical workers." 2020. http:// pravo.gov.ru
- Resolution of the Government of the Russian Federation dated 30.10.2020 No. 1762.2020. http://pravo.gov.ru
- Williams GA, Scarpetti G, Bezzina A, Vincenti K, Grech K, Kowalska-Bobko I, et al. Supporting their health. Eurohealth. 2020;26(2). https://apps.who.int/iris/bitstream/handle/10665/336298/ Eurohealth-26-2-58-62-eng.pdf
- Reed S. Resuming health services during the Covid-19 pandemic: What can the NHS learn from other countries? [Internet]. Nuffield Trust; 2020. p. 38. Available from: http://allcatsrgrey.org.uk/wp/ download/health\_services/resuming-health-services-web.pdf
- Besley T, Jaravel X, Landais C, Reis R. Treasury Select Committee

   call for evidence on Covid-19 financial package. London School of Economics and Political Science; 2020. Available from: http://eprints.lse.ac.uk/104308/1/Besley\_treasury\_select\_committee\_call\_for\_evidence\_published.pdf
- Adeyemo OO, Tu S, Keene D. How to lead health care workers during unprecedented crises: A qualitative study of the COVID-19 pandemic in Connecticut, USA. PLoS One. 2021;16(9):e0257423. [DOI: 10.1371/journal.pone.0257423] [PMID: 34520505]
- Kovaleva IP, Shuliko EV, Strijak MS. [The Russian characteristics of organization of motivational and stimulating systems of labor remuneration in non-state health care institutions]. Probl Sotsialnoi Gig Zdravookhranenniiai Istor Med. 2020;28(1):106–13. [Article in Russian] [DOI: 10.32687/0869-866X-2020-28-1-106-113] [PMID: 32119219]
- Giubilini A, Savulescu J. Stopping exploitation: Properly remunerating healthcare workers for risk in the COVID-19 pandemic. Bioethics. 2021;35(4):372–9. [DOI: 10.1111/bioe.12845] [PMID: 33550626]
- Gray K, Dorney P, Hoffman L, Crawford A. Nurses' pandemic lives: A mixed-methods study of experiences during COVID-19. Appl Nurs Res. 2021;60:151437. [DOI: 10.1016/j.apnr.2021.151437] [PMID: 34247785]
- Bitencourt JVDOV, Meschial WC, Frizon G, Biffi P, Souza JBD, Maestri E. Nurse's protagonism in structuring and managing a specific unit for Covid-19. Texto Contexto Enferm. 2020;29:e20200213. [DOI: 10.1590/1980-265x-tce-2020-0213]
- Hersh U. Underappreciated and undervalued: nurse dissatisfaction and the COVID-19 pandemic. In: Howard JE, editor. Handbook of research on transforming government, nonprofits, and healthcare in a post-pandemic era. IGI Global; 2022. p. 234–72. [DOI: 10.4018/978-1-6684-2314-1]
- Strasser R, Strasser S. Reimagining primary healthcare workforce in rural and underserved settings. World Bank Publications, The World Bank Group; 2020. p. 92. http://hdl.handle.net/10986/34906
- Shrestha RM, Kunwar AR. COVID-19 impact on doctors and health workers. Orthodontic Journal of Nepal. 2020;10(2):2–5.
   [DOI: 10.3126/ojn.v10i2.31060]

- Astorp MS, Sørensen GVB, Rasmussen S, Emmersen J, Erbs AW, Andersen S. Support for mobilising medical students to join the COVID-19 pandemic emergency healthcare workforce: a crosssectional questionnaire survey. BMJ Open. 2020;10(9):e039082. [DOI: 10.1136/bmjopen-2020-039082] [PMID: 32938602]
- Sumin SA, Yaroslavkin RA, Shapovalov KG. Current issues of labor protection of anesthesiologists and intensice care specialists under new coronavirus infection. Russian Journal of Anaesthesiology and Reanimatology. 2021;(2):143–54. (In Russ.) [DOI: 10.17116/anaesthesiology2021021143]
- Kadyrov FN. Replacement of incentive payments for work with coronavirus infection COVID-19 with special welfare payments. Menedzher zdravoohraneniya. 2020;(10):70–7. (In Russ.) [DOI: 10.37690/1811-0185-2020-10-70-77]
- Shalberkina MN. On the problems of implementing measures of social support for health workers during the COVID-19 pandemic. Courier of Kutafin Moscow State Law University (MSAL). 2021;1(8):136–45. (In Russ.)
   [DOI: 10.17803/2311-5998.2021.84.8.136-145]
- Gubina AN. The procedure for calculating and the amount of incentive payments to medical workers providing medical care to patients with COVID-19. In: Industrial Russia: yesterday, today and tomorrow. Ufa: Bulletin of science; 2020. p. 113–9.
- Puzin SN, Memetov SS, Dedeneva IV, Khorkova OV. Legal basis of social guarantees for medical workers affected by coronavirus infection (COVID-19). Bulletin of the All-Russian Society of Specialists in Medical and Social Expertise, Rehabilitation and Rehabilitation Industry. 2020;3:20–30. (In Russ.) [DOI: 10.17238/issn1999-2351.2020.3.20-30]
- Kadyrov FN, Chililov AM. Information exchange system for the implementation of special social payments to medical workers associated with the treatment of Covid-19 coronavirus infection. Medical doctor and information technology. 2020;S5:86–90. (In Russ.) [DOI: 10.37690/1811-0193-2020-5-86-90]
- 24. Anisimova LV, Reykhtman TV, Ivakhnenko LI. Certain aspects of the appointment of incentive payments to medical and other workers directly working with citizens who have been diagnosed with a new coronavirus infection COVID-19. In: Protection of human rights in the context of the spread of the novel coronavirus infection: theory and practice. Moscow: MSAL; 2021. p. 181–90.
- Accounts Chamber of the Russian Federation. Report on the work of the healthcare and sports audit direction of the Accounts Chamber of the Russian Federation in 2020, 2021. https://ach.gov. ru
- WHO COVID-19 Dashboard. Geneva: World Health Organization, 2023. https://covid19.who.int/
- 27. Official information on coronavirus in Russia: Government of the Russian Federation, 2023. https://xn--80aesfpebagmfblc0a.xn--p1ai/
- Ministry of Finance of the Russian Federation, Federal Treasury. Reports on the execution of the budgets of the subjects of the Russian Federation. Unified Portal of the Budgetary System of the Russian Federation "Electronic Budget", 2022. https://budget.gov. ru/
- Ministry of Finance of the Russian Federation, Federal Treasury. Budgets of State Extra-Budgetary Funds of the Russian Federation. Unified Portal of the Budgetary System of the Russian Federation "Electronic Budget", 2022. https://budget.gov.ru/

# Подстицајне исплате здравственим радницима у вези са ковидом

Ирина Бочарова<sup>1</sup>, Александер Риманов<sup>2</sup>

<sup>1</sup>Орјолски државни аграрни институт "Н. В. Парахин", Орјол, Русија;

<sup>2</sup>Руска председничка академија државне привреде и јавне управе, Новосибирск, Русија

#### САЖЕТАК

**Увод/Циљ** Студија процењује утицај кључних индикатора пандемије на доделу бонуса везаних за ковид 19 руским здравственим радницима.

Методе Студија користи регресивну анализу.

Резултати Студија испитује две узастопне врсте исплата бонуса везаних за ковид 19: (1) исплату подстицаја (у 2020. години) и (2) исплату социјалне помоћи (2020–2022. године). Што се тиче исплате подстицаја (тип 1), студија подржава хипотезе у вези са утицајем броја особа заражених ковидом 19 у релевантном региону на стварни/процењени износ трансфера буџета у релевантан регион за исплату бонуса медицинским радницима (а) за посебне услове рада и додатно оптерећење и (б) за обављање посебно важних послова. Што се тиче исплате социјалне помоћи (тип 2), сту-

дија подржава хипотезе у вези са (1) случајевима ковида 19, (2) опоравком од ковида 19 и (3) обрачуном на крају фискалне године и износом исплате социјалне помоћи.

Закључак Главни канал за финансирање плаћања медицинским радницима је посебна исплата социјалне помоћи путем система Фонда за социјално осигурање Руске Федерације. Овај извор финансирања премашује процењени укупан износ трансфера и субвенција у 2020. години у сличне сврхе. Студија тестира хипотезе о повезаности кључних индикатора пандемије и величине различитих врста буџетских трансфера за исплату бонуса медицинским радницима у 2020.

**Кључне речи:** нова инфекција вирусом корона; исплата социјалне помоћи; лекари; медицинске сестре; млађе медицинско особље