

## PILOT SURVEY OF PHYSICIANS ON THE SYSTEM OF ASSIGNING PROFESSIONAL GRADES

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Stagnation of the institution of assigning professional grades (categorization) draws increasing attention to the study of the opinions of physicians aimed at understanding and addressing the issues of this system. The study was aimed to get an estimate of the categorization system, the need for and directions of its transformation from physicians. The study involved an absentee poll of 64 physicians. Among them 48.4% had professional grades, 42.2% had scientific degrees, 51.6% were members of professional communities, 45.3% were engaged in teaching, 48.4% published scientific research results, 26.6% presented the results of their work during scientific and practical events. The average work experience as a physician was  $13.8 \pm 6.13$  years. The questionnaire consisting of 21 statements with 5-point Likert scales was divided into four items: assessment of current categorization system; refusal of categorization; need to transform the system; directions of transformation. As a result, it was found that the respondents having professional grades, scientific degrees, who were members of professional communities engaged in teaching and scientific research, rated the existing categorization system lower ( $1.0 \leq Me \leq 1.8$  vs  $2.6 \leq Me \leq 3.0$ ;  $0.001 < p \leq 0.034$ ), they more often agreed that there was a need to transform the system ( $1.0 \leq Me \leq 1.33$  vs  $2.7 \leq Me \leq 3.0$ ;  $0.001 < p \leq 0.013$ ), than the respondents with no listed above traits. A total of 71.9% respondents agreed that there was a need for change, 1.6% agreed with the refusal of categorization. No correlation between work experience and the scores of items was revealed ( $0.144 \leq r \leq 0.627$ ). Thus, despite the fact that the categorization system was rated low, the majority of physicians don't want to abandon it seeing the need for transformation. The physicians' beliefs are affected by the levels of their professional development.

**Keywords:** categorization, professional grade, professional development**Author contribution:** Misharin VM — research coordination, data analysis and interpretation, literature review; Kochubey AV — concept, design, statistical analysis, conclusions, manuscript writing.✉ **Correspondence should be addressed:** Adelina V. Kochubey  
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## ПИЛОТНЫЙ ОПРОС ВРАЧЕЙ О СИСТЕМЕ ПРИСВОЕНИЯ КВАЛИФИКАЦИОННЫХ КАТЕГОРИЙ

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Стагнация института присвоения квалификационных категорий (аттестации) актуализирует изучение мнения врачей для понимания и решения проблем данной системы. Целью данной работы было получить оценку врачей системы их аттестации, необходимости и направлений ее преобразований. В рамках исследования проводили заочный опрос 64 врачей, 48,4% из которых имеют квалификационную категорию, 42,2% — ученую степень, 51,6% — состоят в профессиональном сообществе, 45,3% — преподают, 48,4% — публикуют результаты научной деятельности, 26,6% — представляют на научно-практических мероприятиях результаты своей работы. Средний стаж работы врачом —  $13,8 \pm 6,13$  лет. Анкета из 21 утверждения с пятибалльной шкалой Лайкерта была разбита на 4 конструкта: оценка текущей системы аттестации; отказ от аттестации; необходимость преобразований системы; направления преобразований. В результате было выявлено, что у респондентов с категорией, ученой степенью, состоящих в профсообществах, ведущих преподавательскую и научную деятельность, оценка текущей системы аттестации ниже ( $1,0 \leq Me \leq 1,8$  vs  $2,6 \leq Me \leq 3,0$ ;  $0,001 < p \leq 0,034$ ), согласие с необходимостью преобразований системы более выражено ( $1,0 \leq Me \leq 1,33$  vs  $2,7 \leq Me \leq 3,0$ ;  $0,001 < p \leq 0,013$ ), чем у респондентов без названных выше черт. Согласие с потребностью в изменениях выразили 71,9% респондентов, с отказом от аттестации — 1,6%. Корреляции стажа с баллами по конструктам не обнаружено ( $0,144 \leq r \leq 0,627$ ). Таким образом, при низкой оценке системы аттестации большинство врачей не хотят от нее отказываться, видя необходимость преобразований. На мнение врачей влияет уровень их профессионального развития.

**Ключевые слова:** аттестация, квалификационная категория, профессиональное развитие**Вклад авторов:** В. М. Мишарин — координация исследования, анализ и интерпретация данных, работа с литературой; А. В. Кочубей — идея, дизайн, статистический анализ, формулирование выводов, подготовка рукописи.✉ **Для корреспонденции:** Аделина Владимировна Кочубей  
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The importance of well-trained personnel for public healthcare is widely accepted and appreciated [1]. The fact that personnel is a group of specialists of various profiles makes a successful unified approach to their sustainable development impossible [2]. National healthcare systems face major challenges related to ensuring objective personnel competence estimation and effectiveness of incentives for continuous professional development of specialists [3].

In the Russian Federation, the institutions responsible for categorization, assigning professional grades (categorization),

internal certification at the work place, independent qualification assessment, as well as the system of continuous medical education, are to ensure estimation of competence and incentives for the physicians' professional development [4–6].

Despite shortcomings in the work of evaluation committees, the categorization system systematically provided growth of physicians' qualification during the Soviet era [7], however, there was a talk about its problems resulting from outdated legislation and flawed methodology, as well as the lack of objective criteria for qualification assessment, since early 2000s [8–11].

Despite the updated legislation and methodology, the categorization systems are still a matter of debate [12–15]. The authors demonstrate stagnation and assume possible extinction of the categorization institution due to the lack of financial incentives, no occupational or professional motivation in specialists, indifference and resistance of employers, emergence of new qualification assessment institutions, gap between categorization and the system of continuous medical education, inadequacy of the professional grade differentiation estimates.

Pessimistic forecasts are not groundless: according to Rosstat, the number of physicians assigned the first and supreme grades reduced by 1.3 times in 2009–2021 in Russia [16].

The problems identified together with the lack of studies focused on assessing the physicians' opinions about the categorization system in the domestic database have defined the aim of the study: to estimate the current state of the system of assigning professional grades to physicians along with the need for and directions of its transformation.

## METHODS

### *Developing a questionnaire for absentee poll*

Data acquisition for the study was performed by the absentee poll of physicians involving the use of Google Forms ([https://docs.google.com/forms/d/1\\_-xyoo1NF3Ch0sIT8qhhZ3jyfWriqraKA2YIH9Gw7jE/viewform?edit\\_requested=true](https://docs.google.com/forms/d/1_-xyoo1NF3Ch0sIT8qhhZ3jyfWriqraKA2YIH9Gw7jE/viewform?edit_requested=true)). A request to complete a survey with the link to the questionnaire was sent to individuals previously trained in the Academy of Postgraduate Education, Federal Scientific and Clinical Center of Specialized Types of Medical Care of FMBA of Russia. Inclusion criteria: being a physician, work experience as a physician of at least five years. Exclusion criteria: citizenship of another country. The number of respondents was set as 500 based on the requirements for studies with improved accuracy to be conducted by the method by K. A. Otdelnova and the assumption of 20% refusals ( $500 = 400/(1-0.20)$ ) [17]. The survey did not require the respondent's written consent, since participation was voluntary, and privacy was guaranteed by no information about surname, name and patronymic in the questionnaire.

The paper provides interim results that are based on the analysis of the questionnaires completed by the first 64 respondents, which is consistent with the sample size of the pilot study conducted using the method by Otdelnova.

The questionnaire used was developed by the authors based on the review of literature on the public healthcare human resource strategy and the issues of categorization system. The first version was tested in a focus group of 17 individuals to clarify the language of statements. The Cronbach's alpha coefficient  $\geq 0.877$  characterizes good internal consistency of the questionnaire items. The intraclass correlation coefficient (ICC)  $\geq 0.91$ , but  $ICC \leq 0.97$  at  $p \leq 0.001$  indicates the questionnaire test-retest reliability. The questionnaire consisted of two parts:

a) background information about the respondent: work experience as a physician, work experience in the specialty, being assigned professional grade or scientific degree, membership in professional communities (professional non-profit organizations created by medical, professionals and pharmacists, their associations and unions), being engaged in teaching or scientific research (with the results published) within a year before the survey, as well as experience of presentations at scientific and practical events for specialists. These

parameters were selected as those affecting the physician's professional development;

b) opinions of physicians about the system of assigning professional grades (categorization). This part consisted of 21 statements with five-point Likert scales offering the following answer options: 1 — Strongly Disagree, 2 — Disagree, 3 — 50/50, 4 — Agree, 5 — Strongly Agree. All statements were divided into four items (K1, K2, K3, K4):

K1 — the existing categorization system was considered in terms of soundness of the professional level estimation, providing the same levels of objectivity, impartiality and completeness of testing, reports, interviews used for assessment or demonstration of the certified person's level of qualification, transparency and clarity of the categorization procedure, employer impact, difficulties when filling out paperwork, compliance of the categorization system with the today's requirements of public healthcare;

K2 — abandoning the categorization system was assessed based on the respondents' agreement with the statement about uselessness of the system of assigning professional grades to physicians for today's public healthcare;

K3 — the need to transform the categorization system was assessed relative to the respondents' attitude towards outdated approaches to building such system exclusively on providing incentives (rewards/punishments) to physicians to be assigned a grade, assessment of knowledge and skills only, key role of healthcare public administration;

K4 — the directions for the categorization system transformation included the principles of physician's professional development in modern public healthcare: development and management of working relationships with colleagues; physician's understanding of formal and informal social norms related to profession; planning professional career throughout the life; physician's contribution to the development of other specialists, profession and the body of medical knowledge; primacy of the motive to be assigned a grade as the greatest possible value; recognition of physician's achievements by professional community; key role of professional community.

Five points to items K1, K4 indicated the most positive assessment of the existing system and the directions of its transformation, to item K2 — agreement to abandon the categorization system, to item K3 — disagreement with the need to transform the system. By contrast, one point to items K1, K4 indicated the most negative assessment of the existing system and the directions of its transformation, to item K2 — disagreement to abandon the categorization system, to item K3 — agreement with the need to transform the system. The distribution of variables across statements and items was non-normal ( $p \leq 0.001$ ).

### Characteristics of respondents

Among 64 respondent physicians 31 (48.4%) had professional grades, 27 (42.2%) had scientific degrees, 33 (51.6%) were members of professional communities; 29 (45.3%) were engaged in teaching, 31 (48.4%) published original research results, 17 (26.6%) presented the results of their work in the specialty at scientific and practical events. The respondents' average work experience as a physician was  $13.8 \pm 6.13$  years and their work experience in the specialty was  $11.7 \pm 5.83$  years. The respondents' distribution by work experience was normal ( $p = 0.200$ ;  $p = 0.169$ ). There were significant differences in work experience between the respondents assigned and not assigned professional grades ( $t = -2.31$ ,  $p = 0.024$ ;  $t = 2.25$ ,  $p = 0.028$ ), being and not being members of

**Table.** Medians of items and asymptomatic significance of Mann–Whitney U test by groups of respondents

Groups	K1	K2	K3	K4
Grade	$p < 0.001$	$p = 0.023$	$p < 0.001$	$p < 0.001$
Yes	Me = 1.0	Me = 1.0	Me = 1.0	Me = 5.0
No	Me = 3.0	Me = 2.0	Me = 2.67	Me = 3.29
Scientific degree	$p = 0.034$	$p = 0.227$	$p = 0.013$	$p = 0.010$
Yes	Me = 1.0	Me = 1.0	Me = 1.0	Me = 5.0
No	Me = 2.60	Me = 2.0	Me = 2.67	Me = 3.57
Professional community	$p = 0.002$	$p = 0.131$	$p = 0.005$	$p = 0.002$
Member	Me = 1.8	Me = 1.0	Me = 1.33	Me = 4.57
Not a member	Me = 3.0	Me = 2.0	Me = 3.0	Me = 3.29
Teaching	$p < 0.001$	$p < 0.001$	$p < 0.001$	$p < 0.001$
Engaged	Me = 1.0	Me = 1.0	Me = 1.0	Me = 5.0
Not engaged	Me = 3.0	Me = 2.0	Me = 2.67	Me = 3.29
Published research results	$p < 0.001$	$p < 0.001$	$p < 0.001$	$p < 0.001$
Yes	Me = 1.0	Me = 1.0	Me = 1.0	Me = 5.0
No	Me = 3.0	Me = 2.0	Me = 2.67	Me = 3.29
Presentations at scientific and practical events	$p < 0.001$	$p = 0.003$	$p < 0.001$	$p < 0.001$
Yes	Me = 1.0	Me = 1.0	Me = 1.0	Me = 5.0
No	Me = 2.60	Me = 2.0	Me = 2.67	Me = 3.57

professional communities ( $t = -2.90$ ,  $p = 0.005$ ;  $t = -3.45$ ,  $p = 0.01$ ). There were no significant differences between the respondents having and not having scientific degrees ( $t = 1.17$ ,  $p = 0.245$ ;  $t = 0.83$ ,  $p = 0.410$ ), engaged and not engaged in teaching ( $t = -1.03$ ,  $p = 0.305$ ;  $t = 1.45$ ,  $p = 0.153$ ), having and not having scientific publications ( $t = 1.18$ ,  $p = 0.244$ ;  $t = 1.51$ ,  $p = 0.137$ ) and the experience of presentations at scientific and practical events ( $t = 0.41$ ,  $p = 0.680$ ;  $t = 0.94$ ,  $p = 0.349$ ).

Statistical processing was carried out using SPSS, ver. 23 (IBM Company; USA). The following was performed: calculation of mean values and standard deviations for the variables “work experience as a physician” and “work experience in the specialty”, comparison of work experience by groups using Student’s t-test, frequency analysis of scores by items, calculation of Spearman’s rank correlation coefficient to assess the relationship between the work experience and the scores by items, calculation of the median for each item by groups, comparison of scores assigned to the items by groups using the Mann–Whitney U test.

## RESULTS

The majority of respondents (41/64%) do not agree that the existing categorization system meets modern requirements of public healthcare, is complete in terms of assessing the professional development level, ensures equal levels of objectivity, that testing, reports, interviews are impartial and complete when used for assessment or demonstration of the physician’s level of qualification, that the categorization procedure is transparent and clear, there are no difficulties when filling out paperwork and no employer impact. The majority of respondents (46/71.9%) do not agree with the outdated principles of the categorization system construction, however, they do not want to abandon the system (56/87.5%). More than a half of respondents (35/54.7%) agree with all new principles of the categorization system construction. A total of 42 respondents (65.6%) agree that there is a need for estimates of the development and management of working relationships with colleagues in the categorization system;

56 (87.5%) agree that there is a need for estimates of the physician’s understanding of formal and informal social norms related to profession; 39 (60.9%) agree that there is a need for estimates of planning professional career throughout the life; 39 (60.9%) agree that there is a need for estimates of the physician’s contribution to the development of other specialists, profession and the body of medical knowledge. A total of 38 respondents (59.4%) agree with primacy of the motive to be assigned a grade as the greatest possible value for the physician, 15 (23.4%) agree with primacy of incentives. A total of 56 respondents (87.5%) agree with the statement that the categorization system has to reflect recognition of physician’s achievements by professional community. The majority of respondents (42/65.6%) acknowledge that professional community plays a key role in today’s system of assigning professional grades to physicians, while 4 (6.3%) recognize that the key role is played by healthcare public administration.

The respondents, who were assigned grades, had scientific degrees, were members of professional communities, were engaged in teaching, had scientific publications and the experience of presenting at scientific and practical events, ranked the existing categorization system lower ( $1.0 \leq \text{Me} \leq 1.8$  vs  $2.6 \leq \text{Me} \leq 3.0$ ;  $0.001 < p \leq 0.034$ ), to the greater extent agreed with the need to transform the system ( $1.0 \leq \text{Me} \leq 1.33$  vs  $2.7 \leq \text{Me} \leq 3.0$ ;  $0.001 < p \leq 0.013$ ), ranked new principles of transformation higher ( $4.6 \leq \text{Me} \leq 5.0$  vs  $3.3 \leq \text{Me} \leq 3.6$ ;  $0.001 < p \leq 0.010$ ), that the respondents with no listed above traits (Table). There were no differences in the extent of disagreement with the categorization system abandoning (K2) between the groups of respondents allocated based on the facts of having a scientific degree and membership in professional communities.

There were no strong significant correlations between the scores of items and the work experience as a physician (K1  $r_s = 0.26$ ,  $p = 0.039$ ; K2  $r_s = 0.06$ ,  $p = 0.627$ ; K3  $r_s = 0.17$ ,  $p = 0.172$ ; K4  $r_s = 0.19$ ,  $p = 0.144$ ) or work experience in the specialty (K1  $r_s = 0.28$ ,  $p = 0.028$ ; K2  $r_s = 0.08$ ,  $p = 0.510$ ; K3  $r_s = 0.19$ ,  $p = 0.133$ ; K4  $r_s = 0.21$ ,  $p = 0.104$ ).

## DISCUSSION

The survey has shown that the majority of physicians see the shortcomings of the system of assigning professional grades, which is in line with the literature data on the issues of the existing categorization system [12–15]. Furthermore, discrepancies between the assumptions of a number of authors about the categorization institution uselessness and unwillingness of the vast majority of physicians (87.5%) to abandon this system have been revealed [11]. Many respondents are negative on the approaches of the existing categorization system and positive on new principles of professional development in modern public healthcare. In fact, the survey results indicate the desire of professional community to transform the categorization conceptual model. This conclusion is supported by the fact that almost 88% of respondent agree that categorization should reflect recognition of physician's achievements by professional community.

The fact, that almost 60% agree that the today's system should be based on the motive to be assigned a professional grade as the greatest possible value for the physician, is of special interest. Such an approach is fundamentally different from the most common proposal to use incentives to address the issue of disregard for professional grades [12, 15]. It should be noted that building the categorization system on the basis of incentives is supported by less than a quarter of respondents (23.4%). Moreover, primacy of the motive to be assigned a professional grade as the greatest possible value in almost 60% of respondents confirms the importance of respect, recognition, self-actualization via contribution to the development of other specialists and profession itself for physicians [18]. The identified lower significance of financial incentives for physicians needs to be confirmed by the survey with higher accuracy. If similar results are obtained, it would be rational to conduct a distinct study to reveal the reasons of the financial incentives' low significance.

Despite the fact that a half of respondents are not members of professional communities, almost 66% of respondents recognize that communities play a key role in today's categorization system, while only 6.3% believe that the key role is played by healthcare public administration. In our opinion, this

confirms the growing importance of professional communities for realization of physicians' development [19].

We should also pay attention to the differences in estimation of all aspects of the categorization system and its transformation by the respondents with the higher level of professional development based on certain formal criteria. The differences revealed show that such respondents rank the existing categorization system lower ( $0.001 < p \leq 0.034$ ), they to greater extent agree with the need to transform the system ( $0.001 < p \leq 0.013$ ) and are more often positive on new principles ( $0.001 < p \leq 0.010$ ). No association of estimates with the respondents' work experience can be explained by the fact that work experience is not always the criterion of physician's professional development [20, 21].

## Study limitations

The study has a number of limitations. First, it is the small number of respondents compliant with the criteria of pilot survey, although, it allows us to draw interim conclusions on the feasibility of performing the study with improved accuracy. This constraint will be resolved during further research. Second, it is the respondents' bias towards the system of assigning professional grades that could affect the scores provided by the respondents and even become the reason for refusal of survey, thereby also distorting the overall picture. Third, the sample had a high share of individuals assigned professional grades, having scientific degrees, engaged in teaching and research activities relative to the general population. This limitation was partially removed by dividing the respondents into groups. This can be fixed completely by increasing the sample to the size appropriate for studies with improved accuracy.

## CONCLUSIONS

Despite the low ratings of the existing categorization system, the vast majority of physicians do not want to abandon the system, however, they recognize the need for transformation in accordance with the principles of physician's professional development in modern public healthcare. The physicians' opinions about the categorization system are affected by the levels of their professional development.

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