

STRUCTURE AND STAFF MOVEMENT WITHIN STATE VETERINARY SERVICE OF RUSSIAN FEDERATION

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SUMMARY

Major resources for any organization are human resources which condition the company's performance. The article presents the analysis of quantitative and qualitative indicators of the number, structure and movement of staff of the state veterinary service of the Russian Federation in 2018. All indicators were examined at different organizational levels of the veterinary service: the country's veterinary service as a whole, at the level of the executive veterinary bodies of Russian Subjects (including the state veterinary surveillance divisions), establishments for control and prevention and those for laboratory analysis and diagnosis. The work deals with the staff structure of the country's state veterinary service categorized by education, length of service, age and gender. To study the movement of staff of the state veterinary service connected to recruitment and retirement of specialists, we calculated and analyzed a number of parameters: employee turnover rate for recruitment, employee turnover rate for leaving, total staff turnover rate, staff replacement rate. In 2018 the Russian state veterinary service comprised around 52,304 veterinary specialists, the majority of them (81%) being employed at establishments for control and prevention. The core of veterinary specialists is represented by employees with a university degree (75%), work experience of more than 10 years (55%), belonging to age group of 36–50 years (43%), female (62%). The results of analysis of human resources of the veterinary service allow us to determine the weak points of personnel policy and work out measures to deal with them if the need arises.

Key words: veterinary service, organizational levels of veterinary service, veterinary specialist, staff structure, staff movement.

INTRODUCTION

Among all the resources of any organization, human resources hold an important place; their quality, effectiveness, qualification and work experience condition the organization's performance. The human resources of an organization or a particular sector as a whole comprise specially trained and educated staff members; this is also true for the state veterinary service of the Russian Federation [5, 8].

The key objectives for the analysis of the Russian Federation state veterinary service include the determination of indicators related to the number, structure, qualification and movement of veterinary personnel.

These indicators were analyzed for the following staff categories in relation to the nature of functions performed:

- veterinary specialists working in treatment and preventive care institutions (animal disease control stations, veterinary centres, veterinary clinics, veterinary units, etc.);
- veterinary specialists working in laboratory diagnostic institutions (veterinary diagnostic laboratories at various levels);

– veterinary specialists working in the veterinary executive authorities of the Russian Federation Subjects that comprise an internal unit responsible for official veterinary surveillance.

The staff structure represents the composition and proportions of certain groups and categories of staff members [4, 8, 11]. The state veterinary service staff structure was analyzed by:

- organizational levels of the state veterinary service;
- education;
- the length of service;
- age;
- gender.

Since official information available on the staff resources of the Russian Federation state veterinary service is rather limited, the objective of this study was the selection of the most significant indicators, their collection and comprehensive analysis that enabled an assessment of many qualitative and quantitative indicators related

to manpower resources; besides, the movement of staff within the state veterinary service was analyzed for the first time.

MATERIALS AND METHODS

Data for 2018 provided by the veterinary executive authorities of the Russian Federation Subjects using the primary data collection form developed by the FGBI "ARRIAH" served as a practical basis for analysis of manpower resources in the state veterinary service of the Russian Federation. The information was received from 84 Russian Federation Subjects with exception of the Zabaykalsky Krai for which the available data for 2017 were used.

The publications by contemporary authors on problems related to human resource analysis provided a methodological and theoretical basis for the study.

The following methods were used: analytical method; comparative analysis, compilation and grouping, descriptive statistic methods; economic and mathematical calculations.

RESULTS AND DISCUSSION

One of the basic characteristics of the corporate staff are its number and structure. In 2018, the state veterinary service of the Russian Federation comprised 52,304 veterinary specialists (Table 1).

The information presented shows that the majority of veterinary specialists (81.2%) work in treatment and preventive care institutions, i.e. in the institutions that implement primary veterinary measures to prevent and eradicate animal diseases. The staff members of laboratory diagnostic institutions constitute a significant portion (15.3%). The veterinary executive authorities of the RF Subjects comprise 3.5% of veterinary specialists, of which $\frac{3}{4}$ are specialists responsible for official veterinary surveillance at the regional level.

Along with the veterinary service staffing level, also of interest is the qualitative composition of the veterinary staff assessed with respect to their education, the length of service in the state veterinary service institutions, age, gender [2, 4, 7].

Staff structure with respect to education. The state veterinary service activities require that the staff possesses special knowledge, expertise and qualifications.

The proportion of the veterinary specialists with a university degree is about 75%, of those with secondary education – about 25%, and these are the positive indications regarding the qualification level of the veterinary specialists of the Russian Federation state veterinary service.

It should be noted that the state veterinary service comprises 679 veterinary specialists with an academic degree of the Candidate or Doctor of Science.

Staff structure with respect to the length of service in the Russian Federation state veterinary service. To analyze the veterinary personnel distribution with respect to this indicator, four groups of veterinary specialists were identified based on the length of their work in the institutions of the state veterinary service (Fig. 1).

At all organizational levels of veterinary services, the proportion of specialists with less than one year of service is the smallest (5% to 7%); most staff (47% to 56%) have been working in the said structure for more than 10 years. A significant proportion (23% to 36%) is the veterinary personnel having 5–10 years of service. Since the length of service has a significant impact on veterinary specialists' competencies, it can be concluded that the Russian Federation state veterinary service is staffed with experienced personnel. Besides, the long period of work in the state veterinary service of most of the veterinary specialists is indicative of the staff stability within this structure and, to some extent, of their satisfaction with labour conditions [3, 12]. Some researchers suggest that the longer an employee works in the organization, the more value he/she will attain for it [8].

Staff structure with respect to age. The average age of specialists is a traditional statistical indicator related to human resources. However, it represents a mean value and is not informative enough. Therefore, the age structure of the state veterinary service staff including a breakdown by groups is more illustrative (Fig. 2).

While studying the human resource age structure, four age groups, each having, in our opinion, its professional specificities, were identified: young staff members (under 35 years of age), mature staff members (aged between 36 and 50), preretirement- (aged between 51 and 54/59) and retirement-age (aged 55/60 years and over) staff members.

Based on the data presented, it can be concluded that both in the RF state veterinary service as a whole and at each of its organizational levels specialists aged 36–50 prevail. This age range is associated with the peak of a person's working activity. The personnel of this age are characterized by high work productivity and performance potential, as well as in-depth understanding of all professional issues, and this influences the quality of their performance.

The veterinary specialists under 35 years of age constitute a considerable proportion within the state veterinary service. This indicates that the veterinary service involves young professionals and the personnel of this age range are hard-working, vigorous and possess a high potential to improve their qualification and professional training level.

The proportions of the veterinary specialists under 35 years of age (26%) and retirement-age staff members (25%) are approximately equal. This means that a considerable proportion of the veterinary specialists belong to the senior age group. Retirement-age staff members usually have high qualification, knowledge and experience which they use in their work. However, the large proportion of pre-retirement age veterinary specialists among the organization staff may result in reduced sensitivity to various innovations. Data provided by the Superjob Portal Research Centre confirm that "the employers tend to see positive traits in the older employees more frequently than the negative ones" [10]. In many foreign countries, the percentage of people who continue working after the age of 65 is high [9, 14].

Table 1
The number of veterinary specialists in the Russian Federation state veterinary service

State veterinary service organization structure	Number of veterinary specialists
RF state veterinary service, total number:	52,304 (100%)
– executive authorities of RF Subjects, including specialists responsible for official veterinary surveillance	1,840 (3.5%) 1,292 (2.5%)
– treatment and preventive care institutions	42,478 (81.2%)
– laboratory diagnostic institutions	7,986 (15.3%)

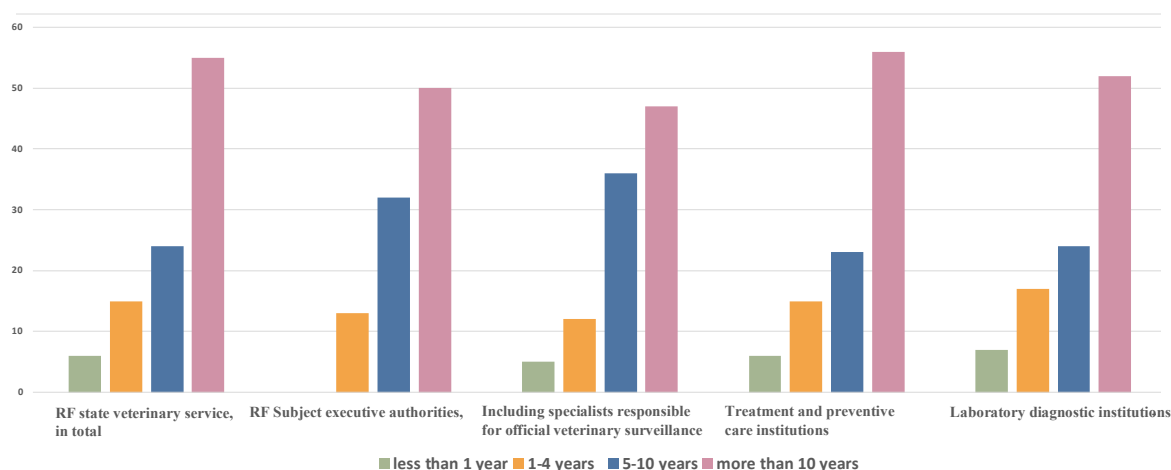


Fig. 1. Staff distribution by the length of service in the Russian Federation state veterinary service institutions, %

Staff structure with respect to gender. One of the indicators for human resource assessment is gender composition of the organization's staff. With regard to the veterinary service, this indicator is purely informative since the legislation does not provide for any additional benefits for veterinary specialists based on their gender.

Female veterinary specialists make up a considerable proportion (62%) of the Russian Federation state veterinary service staff; the proportion of male specialists is consequently 38%.

The ratio in favour of male specialists is observed only at the level of the veterinary authorities of the RF Subjects where they account for 57% and among the staff members responsible for official veterinary surveillance (59%). At all other organizational levels of the veterinary service, female specialists prevail. Women dominate the laboratory diagnostic institutions: they account for 89%. Perhaps,

that is because the work in the laboratory requires higher diligence and accuracy that are more characteristic of female personnel. Another reason may be better working conditions compared with those on farms.

State veterinary service staff movement. The number of the personnel of any organization changes within a certain period of time. This is due to the fact that new staff members are employed and those working leave. The process of change in the number of employees constitutes workforce movement characterized by the following indicators: employee turnover rate for recruitment, employee turnover rate for leaving, overall employee turnover rate, employee replacement rate, etc. [1, 4, 6, 13].

Employee turnover rate for recruitment allows for determination of the ratio of recruited employees to the average number of listed employees (Table 2).

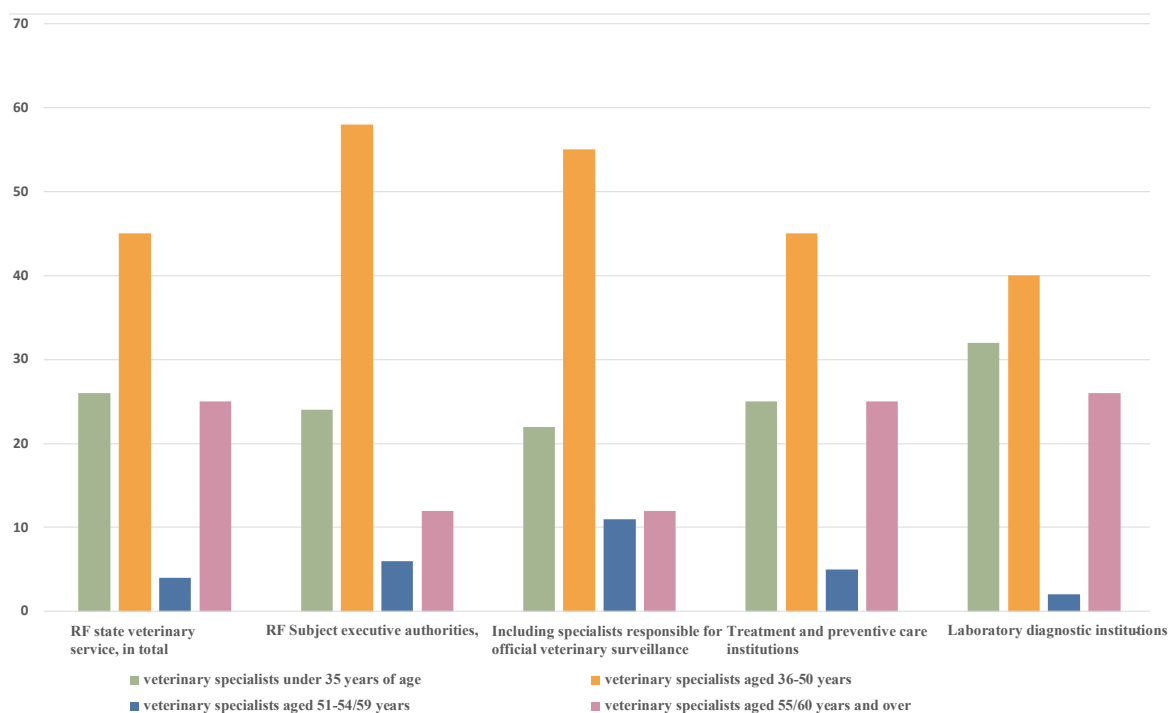


Fig. 2. Age distribution of the veterinary personnel in the Russian Federation state veterinary service, %

Table 2
Employee turnover rates for recruitment and leaving for the veterinary specialists of the Russian Federation state veterinary service, %

State veterinary service organization level	Rates, %	
	for recruitment	for leaving
RF state veterinary service, in total:	10	11
– executive authorities of RF Subjects, including specialists responsible for official veterinary surveillance	9 (9)	9 (10)
– treatment and preventive care institutions	9	11
– laboratory diagnostic institutions	12	9

The data presented in the table show that the proportion of recruited veterinary specialists at all veterinary service organization levels (with exception of laboratory diagnostic institutions) within the year amounted to 9%. The proportion of such specialists in laboratory diagnostic institutions is a little higher: they make up 12% of listed veterinary personnel. On average, the state veterinary service employee turnover rate for recruitment is 10% for 2018.

The ratio of the employees who left during the year to the average number of the employees listed helps determine the employee turnover rate for leaving (Table 2).

The calculation data show that employee turnover rates for leaving are not much different for different organizational levels of the Russian Federation veterinary service, and this suggests that the process of leaving is practically uniform, i.e. there are no significant reductions of staff at any of the veterinary service organization levels. On average, across the country, the proportion of leaving veterinary specialists during the year made up 11% of the total number of the veterinary specialists within the Russian Federation state veterinary service. The factors that lead to leaving can be both subjective and objective.

When analyzing staff movement, the employee turnover rates for recruitment and leaving should be more appropriately considered in parallel. Table 2 shows that for the veterinary service as a whole, as well as for each of its levels these rates are not high and do not significantly differ from one another. The turnover rate for leaving exceeds that for recruitment and is indicative of a small loss in the number of veterinary specialists responsible for official

veterinary surveillance and of those working in treatment and preventive care institutions. The ratio between these rates for laboratory diagnostic institutions also reveals a positive trend and is indicative of increase in the number of specialists at this level of the veterinary service. This can be due to the opening of additional vacancies within the existing areas of activity or new structural units.

Overall employee turnover rate provides a general assessment of the extent to which the staff composition changes in relation to staff recruitment and leaving. It is the ratio of the sum of the number of recruited employees and that of leaving ones to the average number of listed employees (Table 3). The lower is the value of this indicator, the more stable and permanent the staff composition should be.

By comparing the data presented in Table 3, it can be concluded that the levels of staff stability do not differ significantly for different veterinary service organization levels. The composition of the veterinary staff in the executive authorities is more stable, and that in the laboratory diagnostic institutions is less stable. This fact can be indirectly indicative of possible problems related to labour management, remuneration, social support of veterinary specialists, etc. To determine the real causes, a more thorough analysis of the factors underlying this situation is required.

An important indicator to characterize the movement of staff is staff replacement rate calculated as the ratio of the number of recruited staff members to that of dismissed ones during the year (Table 3).

Replacement rate characterizes the process of replacement of employees leaving the organization for different reasons with newly employed ones. It is advisable for the organization that this rate is higher than 1. However, the staff replacement rate dynamics, when the value for this indicator is close to 1, does not always show a positive trend. Such value is also possible when there is no staff turnover, and this may result in personnel stagnation and create problems in the future (for example, the aging of staff when the percentage of preretirement- and retirement-age staff members is high).

In particular, staff replacement rate for the state veterinary service as a whole amounted to 0.91% for 2018 (the number of staff members who left exceeded that of recruited ones by 486 persons). Such situation when replacement rate is lower than 1 is typical for most veterinary service organization levels: a veterinary executive authority, an official veterinary surveillance unit and laboratory diagnostic institutions. Consequently, there may be a lack of staff and increase in the number of vacant jobs at these organizational levels. However, when staff replacement rate value is less than 1, this can be an indication of reduction of posts (full-time positions) in case of reduction in tasks carried out by the state veterinary service.

In the laboratory diagnostic institutions (replacement rate – 1.27) the replacement of the number of veterinary specialists lost through attrition is complete. However, according to reported data, laboratory diagnostic institutions are 12% understaffed with veterinary specialists, the state veterinary service is on the average 10% understaffed.

Staffing requirements should be consistent with the organization development prospects since bringing in qualified workforce is a long process. It involves training, retraining, investments, the analysis of external and internal labour markets [8].

Table 3
Overall turnover and replacement rates for the veterinary personnel within the Russian Federation state veterinary service

State veterinary service organization level	Overall turnover rate, %	Replacement rate, %
RF state veterinary service, in total:	21	0.91
– executive authorities of RF Subjects, including specialists responsible for official veterinary surveillance	18 (19)	0.95 (0.89)
– treatment and preventive care institutions	20	0.86
– laboratory diagnostic institutions	21	1.27

With a view to resolve human resources deficit and maintain their adequate level, the inflow of veterinary specialists to the veterinary services of the RF Subjects can be ensured through targeted admission of applicants to higher education institutions to major in veterinary medicine. This mechanism has been implemented in 53 Russian Federation Subjects, and this affirms the importance of this line in HR policy. According to the RF Subject veterinary services, in the period from 2008 to 2018 more than 2,890 people received a university degree in veterinary medicine under targeted admission scheme, but only about 1,470 of them became the employees of the state veterinary service institutions, and that highlights the need for a more in-depth assessment (by structures concerned) of effectiveness of targeted admission education with respect to veterinary medicine. Consequently, only about half of young professionals with a university degree in veterinary medicine educated under targeted admission scheme return to work in the state veterinary service institutions. The social support measures implemented at the level of the RF Subjects are probably insufficient. Concerted efforts therefore have to be made by regional and federal authorities to raise the status and improve the attractiveness of the profession of veterinarian.

CONCLUSION

The analysis of data provided by the veterinary executive authorities of the Russian Federation Subjects allowed identifying the most significant indicators for the assessment of human resources at different organizational levels of the state veterinary service: education, the length of service, age, gender, staff movement. The analysis of values for the indicators related to veterinary staff number, structure and movement in 2018 reveals that the RF state veterinary service staffing level is 90% of the established strength. Notably, the number of the veterinary specialists who left the service exceeded the number of those recruited and this suggests the incomplete replacement of leaving veterinary specialists (replacement rate is 0.91) and is partly indicative of minor negative trends at some levels of the veterinary service organization. However, these values are not critical, but call for greater attention in order to identify obvious or hidden problems and make necessary managerial decisions in the future.

Most of the veterinary specialists work in treatment and preventive care institutions (81%), which is attributable to the area of the state veterinary service activity. The distribution of manpower resources by education shows that professionals with a higher education prevail (75%). The pattern of age distribution shows that the veterinary service is high-staffed with specialists aged 36 to 50 that possess adequate expertise while having high professional capacity. The shares of young specialists under the age of 35 (26%) and those of retirement age (25%) are practically equal which is indicative of sound recruitment policies. As for gender structure, the share of women (62%) exceeds that of men in the total number of veterinary specialists in the state veterinary service. The highest proportion of working women is to be found in laboratory and diagnostic institutions (89%). The state veterinary service comprises over 50% of specialists with a long record of service (more than 10 years), and this shows that the veterinary service of the country is staffed with experienced and qualified personnel which is important for animal disease freedom maintenance in the Russian Federation.

The calculations made and the comprehensive analysis of staff-related rates provide insight into the quantitative, structural, qualitative status of veterinary staff and their movement at different levels of the state veterinary service organization in 2018. For deeper analysis of human resources, one needs to examine the dynamics of these parameters through the years. This will help identify the trend of their changes and, where necessary, develop measures to improve the HR policies of the state veterinary service of the Russian Federation.

The analysis of staff-related indicators with respect to the Russian Federation state veterinary service and the conclusions drawn provide an additional information base for making certain managerial decisions related to labour management that allow for a more detailed analysis of the factors that influence a particular situation to ensure the high quality of the state veterinary service work at different levels of its organization.

Conflict of interests. The authors declare no conflict of interest.

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