

# DETERMINATION OF THE READINESS OF MEDICAL PERSONNEL TO PROVIDE HEALTH SYSTEM RESPONSIVENESS

Prof. Valery Nikitichna LEKHAN<sup>1</sup>—MD, PhD  
Head of Department  
Associate Prof. Lily Viktorovna KRYACHKOVA<sup>1</sup>  
Candidate of Medical Science (PhD)  
Vera Volodimirovna VOLCHEK<sup>1</sup>  
Lecturer, Candidate of Medical Science (PhD)  
Anna HORDYNA<sup>1</sup>  
Candidate of Medical Science (PhD)

<sup>1</sup>Department of Social medicine and health management  
Dnipropetrovsk Medical Academy, Dnipropetrovsk,  
Ukraine

## INTRODUCTION:

Health systems have three goals: to improve the health of the populations they serve, to respond to the reasonable expectations of those populations and to collect the funds to do so in a way that is fair [1]. Among the main goals of health service the least studied is health system responsiveness [2, 3].

Health system responsiveness can be improved by rising medical personnel's involvement in gaining the main goals of health system [4 - 7].

Aim of the investigation: to estimate readiness of workers to provide health system responsiveness according to investigation of motivation, quality of work life, job involvement and work engagement.

## METHODS

Information was collected by using the questionnaire, which included a few methods such as: sociological questionnaire regarding work motivation of medical personnel created by Russian Independent Institute for Social Policy [8]; method of quality of work life studying [9]; adapted Utrecht work engagement scale - UWES [10]; Gallup's 12 questions [11].

To get the primary data questionnaire interviewing for medical personnel was held during 2013 - 2014. 362 medical workers and 12 health institutes of Dnepropetrovsk region Ukraine were interviewed in total.

Data collected was analyzed using STATISTICA 6.1 (StatSoftInc, № AGAR909E415822FA) with the use of descriptive statistic: mean (M); 95 % confidence interval (CI); frequency and percentages were calculated for interval and categorical variables.

Chi-square test between categorical variables and Mann-

**BACKGROUND:** In many countries health systems do not responsiveness and this is in part due to lack of information on medical personnel's involvement.

To provide health system responsiveness according to investigation of motivation, quality of work life, job involvement and work engagement.

**METHODS:** 362 medical workers of Ukraine were asked. Methods of medical personnel's work motivation and quality of work life studying were used, adapted Utrecht work engagement scale and Gallup's 12 questions.

As a method of statistical analysis of results the descriptive statistics and correlation-regression analysis was used.

**RESULTS:** The 137 medical workers (37.57%) have got value oriented type of motivation as predominant, which is characterized by equal value of professional duties without strong attachment to financial or career interest. Regression model of medical personnel's involvement in providing health system responsiveness was developed based on including such parameter as: integrative estimation of quality of work life, motivation level, general work engagement level and age of the workers.

**CONCLUSIONS:** Improvement of work engagement and quality of work life are needed for remarkable improvement of health system responsiveness by means of influence on medical personnel.

**Keywords:** health system responsiveness, medical personnel, motivation, quality of work life, job involvement, work engagement, regression model.

Whitney U-Test for interval variables was used. The experimental information has been processed on the computer under programs multiple linear regression and correlation analyses. Results were considered to be statistically significant if  $P$  value was  $<0.05$ .

## RESULTS:

A total of 362 medical workers took part in the investigation; 262 (72.38 %) women and 100 (27.62 %) men; median age 46.17 (95 % CI 44.75 - 47.59). Age and sex of respondents complies with the classification of workers by sex and age in health system ( $P>0.05$ ). Different professional group representatives were interviewed: chiefs (managers) of health institutions 91 (25.1 %), doctors 108 (29.8 %), nurses 87 (24.0 %) and staff personnel 76 (21.0 %).

Among the main groups of quality of work life index, management of health institutions is estimated between good and satisfying and amounts to 69.22 (65.35 - 70.11) points out of 100 maximum possible (mostly by virtue of interpersonal relations) next in decreasing order there are such sections as: personnel; career; social protection; working place; salary and social amenities (Table 1).

**Table 1 - Medical personnel's quality of work life index based on general groups (average amount of points out of 100 maximum possible)**

Quality of work life index	Mean (M)	95 % Confidence Interval (CI)
Personnel	67.73	(65.35 - 70.11)
Salary	45.83	(43.25 - 48.41)
Working place	56.96	(54.92 - 59.00)
Institution management	69.22	(66.62 - 71.82)
Career	61.57	(58.67 - 64.47)
Social protection	58.17	(55.67 - 60.67)
Social amenities	32.11	(30.03 - 34.19)

General quality of work life level is estimated by medical workers in 391.61(377.77 - 405.45) points out of 700 maximum possible.

The highest average grades of quality of work life are given by managers 430.76 (411.04 - 450.48), lower – by doctors 377.06 (352.84 - 401.28) and nurses 394.94 (370.72 - 419.16), and the lowest – by staff personnel of health institutions 236.75 (210.43 - 263.07).

Total influence of all the quality of work life components on its general level amounts to  $D=7.76\%$  by determination coefficient; coefficient of multiple correlation  $R=0.98$  ( $P<0.001$ ). Between all the separate quality of work life indexes and its general estimation there is a remarkable direct link of mean power ( $p<0.0001$ ): influence of career on quality of work life  $r=0.69$ ; social protection -  $r=0.67$ ; personnel characterizing -  $r=0.66$ ; salary  $r=0.66$ .

More than one third of the interviewed medical personnel 136 (37.57 %) have value-based type of motivation as predominate, which is marked by equal value of professional interest and sympathy to ill people without strong attachment to financial or career interest (Table 2).

**Table 2 - Division of medical personnel by the predominate type of work motivation**

Type of work motivation	No.	%
Value-based type of motivation	136	37.57 %
Conservatively- economical motivation	96	26.52 %
Social- pragmatistic motivation	84	23.20 %
Active-practical motivation	46	12.71 %

Conservatively-economical type of motivation is dominate for one fourth 96 (26.52 %) of medical personnel. Social-pragmatist type of motivation, when medical personnel are oriented on developing and strengthening of social contacts, is predominate in motivation system for 84 (23.20 %) of respondents. Least of all you can see active-practical type of motivation of medical personnel, which is predominate for 46 (12.71 %) of interviewed.

Ample work motivation is ground for further improvement of medical personnel and system relations in the di-

rection of adaptation their own working motives to the goals of health care – creating work engagement and then job involvement of medical personnel. According to the investigation data all the components of medical personnel's work engagement and its total grade have an average level 3.97 (2.45 – 5.49) by the 6 grade scale. All the components of work engagement can be characterized as fair marked (Table 3).

Vigor, dedication, absorption are 38.17%, 32.33% and 29.67% lower than maximum possible grades respectively.

Interviewed respondents can be characterized as not enough dedicated to work people; 292 (80.66 %) have medium and low level of dedication, but they are absorbed by work regularly; 115 (31.77 %) with high level of absorption. However they don't have enough vigor to cope with their duties and deal with outer challenges and problems; 94 (25.97 %) have low level of vigor. So the most part of respondents of the selection have such distinctive characteristics as: medium level of vigor and persistence, absence of readiness to make great effort, decreasing of vigor while experiencing difficult times at work.

During the estimation of job involvement of different professional groups it is found that 22 doctors (20.37 %) and 14 nurses (16.09 %) are not enough work engaged in health system institutions, and general level of it for all the professional groups is one third lower than maximum possible level.

Developed model of multiple linear regression showed the influence of quality of work life (contribution of variable into the regression model index -  $\beta_1$  coefficient), general work engagement ( $\beta_2$ ) and age of workers ( $\beta_3$ ) on involvement of medical personnel into gaining main goals of health system, including providing the responsiveness (y).

**Regression equation** was created:

$$y = 15.673 + 0.078 \times \beta_1 + 0.484 \times \beta_2 + 0.449 \times \beta_3,$$

being: y – involvement of medical personnel into achievement of main goals of health system, including the responsiveness providing; 15.673 – absolute term of an equation;  $\beta_1$  – quality of work life integral estimation;  $\beta_2$  - general work engagement;  $\beta_3$  – age.

**Table 3 - Estimation of medical personnel's work engagement in general and by single components (average points by 6 grade scale and division in %)**

Components of work engagement	Average estimation		Division by level of engagement (in %)					
			low level		medium level		high level	
	M	95 % CI	No.	%	No.	%	No.	%
Vigor	3.71	(2.45 – 5.49)	94	25.97	205	56.63	63	17.4
Dedication	4.06	(3.54 – 4.58)	91	25.14	192	53.04	79	21.82
Absorption	4.22	(3.88 – 4.56)	55	15.19*	192	53.04	115	31.77*
General grade	3.97	(2.45 – 5.49)	93	25.69	199	54.97	70	19.34

\* $p < 0,05$  to compare with general grade

It explains 89.07 % of dependent variable change (personnel's work engagement). Fundamental increase of personnel's job involvement index to 90 % and higher is possible if quality of work life is increased by 51.13 % and work engagement – by 68.54%.

## DISCUSSIONS:

The concept responsiveness covers a set of non-clinical and non-financial dimensions of quality of care that reflect respect for human dignity and interpersonal aspects of the care process. Eight dimensions (or domains) are collectively described as goals for health-care processes and systems (along with the goals of higher average health and lower health inequalities; and non-improvement – as measured through other indicators): dignity, autonomy, confidentiality, communication, prompt attention, quality of basic amenities, access to social support networks during treatment (social support), and choice (of health-care providers).<sup>[3]</sup>

According to the conceptual model,<sup>[12]</sup> the effectiveness of health system and improvement of responsiveness can be reached by cooperation of three main groups of participants: medical service users (wide circle of population), health system managers and medical personnel.

Medical personnel have especially important role in health system responsiveness improvement [13]. It is medical personnel who are able to work the way they can react on population's requests fairly and effectively to get the best result.<sup>[14]</sup>

Influence of medical personnel on effectiveness and quality of medical help is proved, and it affects the index of population's health and gaining other goals of the branch in the end [4].

The investigation showed the importance of both financial and non-financial motives to inspire medical personnel to achieve main goals of health system. The division of all the respondents by the type of work motivation according to quantitative and qualitative representation of main motives showed that more than one third of interviewed medi-

cal personnel have value-based type of motivation as predominant, which is marked by equal value of professional duties without strong attachment to financial and career interest.

Readiness of medical personnel to provide responsiveness of health system is formed based on work motivation (motives and incitements of professional activity, structure and types of motivation) and quality of work life (personnel, salary, working place, institution management, career, social protection, social amenities).

Psychological characteristics influence forming motivation structure of personnel as the ground of critically important non-financial motive (main motive is social importance), which leads to activation of moral motives and supplies financial motives). It confirms the assumption of multiply level of work motives of medical personnel and importance of using financial and non-financial (wide involving into medical personnel management, creating conditions for fulfilling creative potential of the personnel, upgrading their skills, psychosocial climate improvement etc.) mutually reinforcing motives to make it stronger and, as a result, increasing responsiveness of health system [4, 8, 9].

On the way to adaptation of his own motives of work to the goals of institution and health system, a medical personnel goes through a few stages: adaptation → motivation → dedication → job involvement → effectiveness of work. As factual data and results of investigation show, working space (by quality of work life estimation) is the factor which plays the main role in medical personnel work engagement.

According to the rates of the regressive equation results data with different variable (and permanent age criteria), it was proved, that improving general level of quality of work life and work engagement makes it possible to improve involving of medical personnel into achieving the main goals of the system, including providing responsiveness of health system.

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