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Interdependence of values shared by healthcare organization workers and quality of providing services to patients

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Abstract.

The present paper discusses the peculiarities of manifestations of three levels of organizational culture in a healthcare center: the level of artifacts, of values and of underlying assumptions. The first level is determined through the average "patient day" factor, which implies the percentage of total amount of medical services provided. The second level is determined through the extent of occupational burnout of health care workers. It manifests itself through the type of organizational culture and the index of personnel's loyalty to a medical department. The third level manifests itself through the parameters of the value profile of staff members belonging to separate medical departments. The parameters of the third level of organizational culture were mostly examined in the present paper.

The authors developed a theoretical model of the level of underlying assumptions of the organizational culture in the situation of professional uncertainty. For each of the key indicators there were specified personal systems of values of health care workers. For the indicator "openness to change" these values are self-direction, stimulation and hedonism; for the indicator "self-enhancement" they are achievements and power; for the indicator "conservation" – security, traditions, conformity; for the indicator "self-transcendence" – benevolence and universalism.

The paper provides the results of comparing the structures of different value systems and describes the gap between moral views and personal preferences in behavior of the workers of two surgery units in the multi-specialty Moscow city hospital. The research was conducted in relation to the objective parameters of staff activities of the departments under consideration.

Schwartz personal values questionnaire was used as the diagnostic test instrument. It was assumed that objective parameters of work efficiency in two similar departments depend on a value profile of the core staff – the change leaders. The gap between moral ideals and personal preferences of the heads of two surgery units under consideration differs by approximately four times, of surgeons – by two times, of nurses – no difference in gaps was observed.

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The investigation performed is the implementation of the first stage – distinguishing peculiarities of organizational culture of health care workers. The data obtained within this research should be taken into account when working out a PCDA cycle for a change leader. The cycle presented in the present work can be implemented when holding a set of certain group events called moderation sessions. During such sessions, heads of departments and nurses act out their interaction. Implementation of certain cases has become the main form of work.

Key words: *organizational culture, structure of value system, values, value system, medical staff, change leaders, change leader PDCA model*

I. Introduction

According to the WHO (World Health Organization), there are 8,652,107 doctors and 16,689,250 nursing and midwifery workers in the world, the providence with which per 10 thousand people is 14.2% and 28.1%, respectively.

The relevance of the studies on value systems of health care workers is substantiated by a number of works appeared, which relate to various aspects of this problem [2, 3, 4]. The investigation of changes in minds of medical staff becomes of particular urgency, since it is important to understand how to improve the quality of medical care by means of influencing the organizational culture [7]. Therefore, "the search for a new approach to practical work with organizational culture is a priority task today" [1].

We have distinguished three levels of organizational culture of health care workers (Figure 1)

1. The surface level (artifacts) is determined by the average "patient day" factor, which implies the percentage of total amount of medical services provided
2. The subsurface level (values) is determined through the extent of occupational burnout of health care workers. It manifests itself through the type of organizational culture and the index of personnel's loyalty to their medical department
3. The deep level (underlying assumptions) manifests itself through the parameters of the value profile of staff members of a medical departments.

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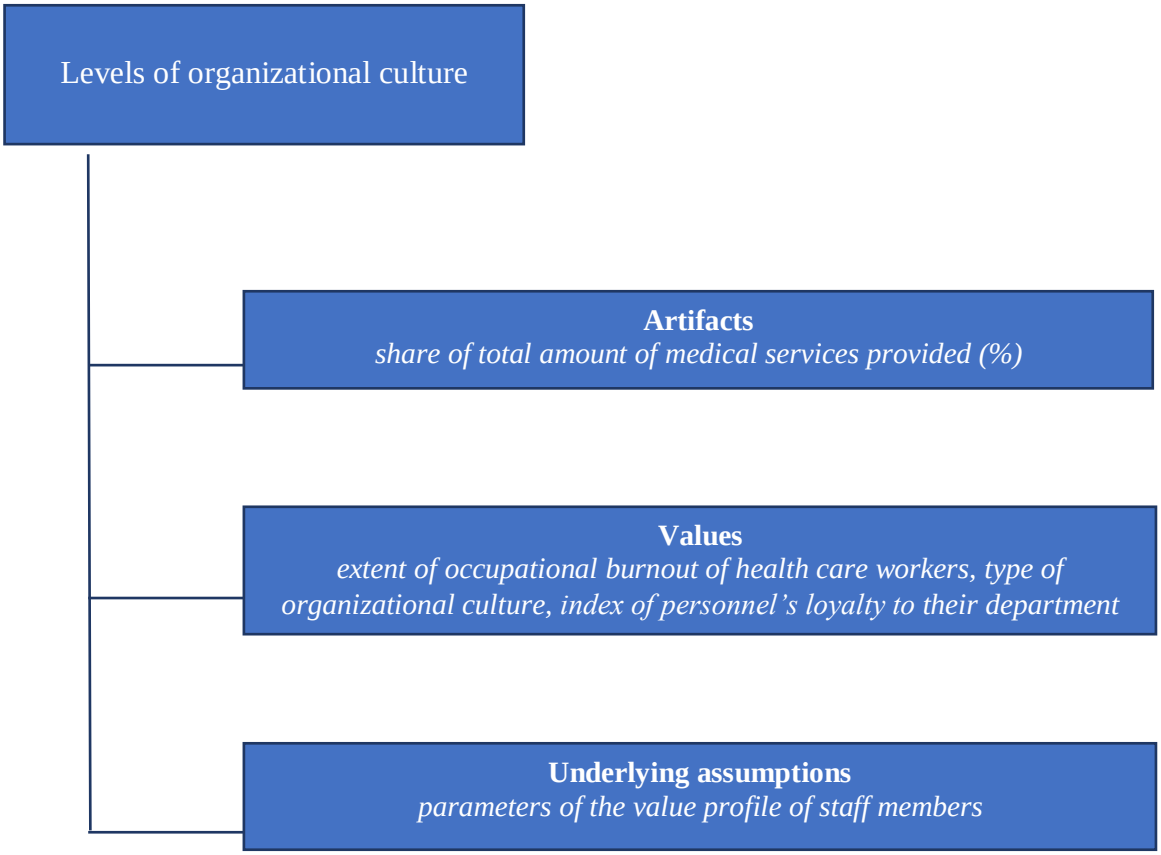

Figure 1. Levels of organizational culture of health care workers

Leading values play an essential role in the professional input made by specialists of socially significant enterprises. The quality of services of professional departments operating in the social sphere is perceived by customers in terms of conformity to standard value expectations.

Based on our analysis, we developed a theoretical model that reveals the level of underlying assumptions of organizational culture in the situation of uncertainty in professional activities (Figure 2).

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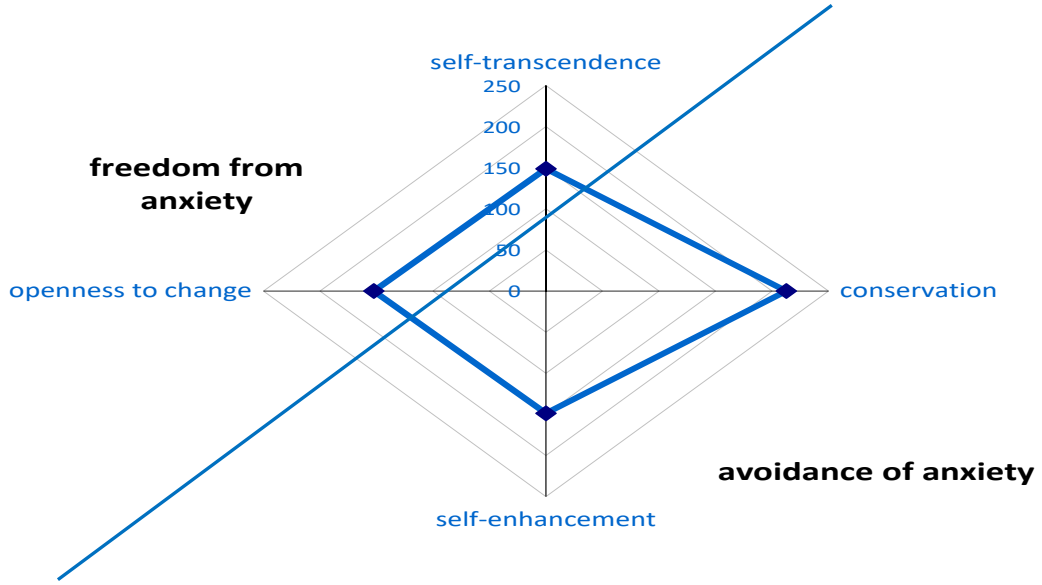

Figure 2. Theoretical model of the third level of organizational culture in the situation of professional uncertainty

We consider important the need to express the sufficient degree of openness to change, self-overcoming and self-assertion, while the preservation of traditions should be a determining indicator.

The indicators showing the values of the personnel of the hospital imposed on the model allow identifying the additional diagnostic criteria (Figure 3).

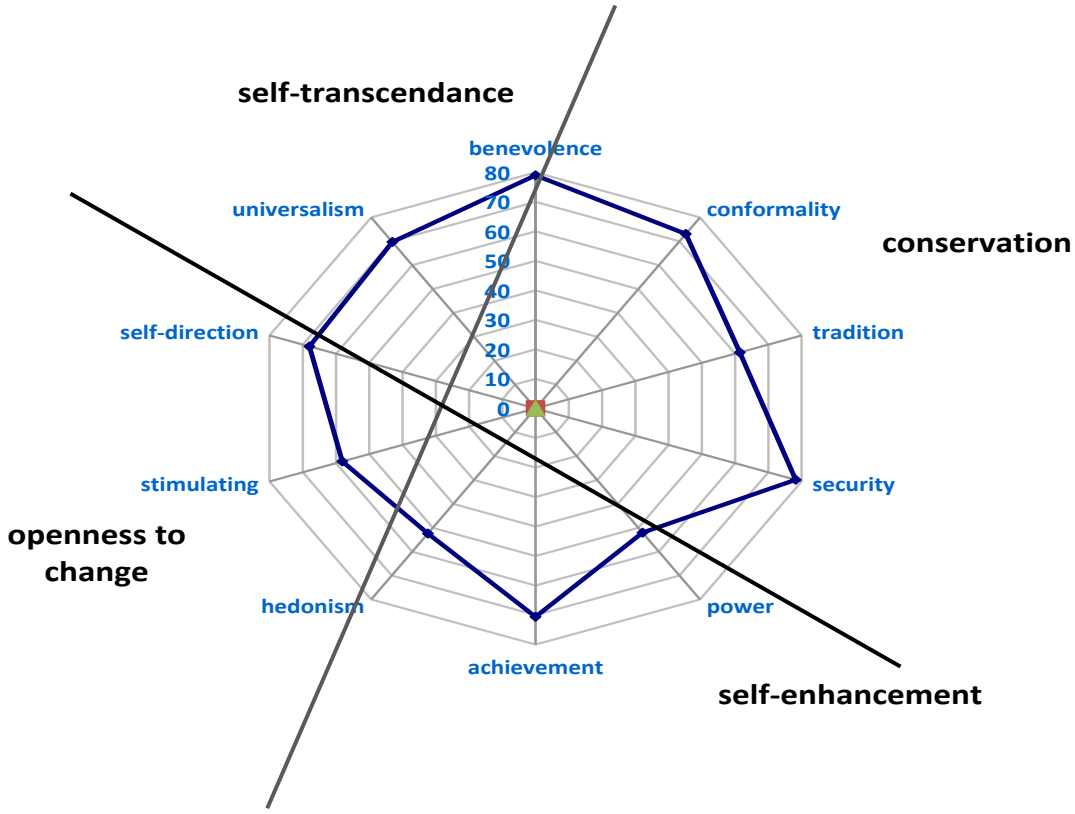

Figure 3. Distribution of values of health care workers in relation to indicators of the level of underlying assumptions of organizational culture

Thus, for each of the key indicators, personal value systems of health care workers were defined. For the indicator “openness to change” the values are self-direction, stimulation and hedonism; for the indicator "self-enhancement": achievements and power; for the indicator “conservation”: security, traditions, conformity; for the indicator "self-transcendence": universalism and benevolence.

The present paper considers the Schwartz methodology for studying the values of the personnel of a medical unit as a tool for determining the effectiveness of collective professional activity and organizational culture.

The purpose of the study: to compare the structures of value systems and the gaps between moral ideals and personal preferences of the behavior of employees in two surgery units of the Moscow City Clinical Hospital, in relation to the objective indicators of activities performed by staff members working in these departments.

The study is based on the following hypothesis: the objective parameters of the performance of similar-typed units depend on the value profile of key personnel - change leaders.

Sums of withdrawals for defects in providing medical aid and for amount of mistakes made when processing primary medical documentation were determined as the objective indicators.

The data obtained during polling the personnel in accordance with Schwarz Shalom H. methodology for determining a value system were used for drawing up personnel's value profiles.

II. Materials and methods

The first stage of the study involved a staff survey conducted in two surgery departments of the Moscow City Clinical Hospital using the Schwartz Shalom H. methodology for diagnosing a value system. The main feature of this methodology lies in the fact that it distinguishes two types of values:

1. Values as abstract ideals. They are defined through assessing nouns and adjectives that describe various values.
2. Values as guides for action. These indicators are determined by evaluating specific actions of people.

The Schwartz value system test consists of two parts.

The first part of the questionnaire is intended to investigate the values, ideals and beliefs that influence the individual. The list of values consists of two parts: nouns and adjectives including 57 values. The person being tested evaluates each of the proposed values on a scale from 7 to -1.

The second part of the Schwartz questionnaire is a personality profile. This part consists of 40 descriptions of a person that characterize 10 value types. To assess the descriptions, a scale of from 4 to -1 points is used [5].

Statistical processing was performed using the Mann-Whitney U-test.

The indicators for assessing the activities of hospital units were determined according to the "List of reasons for refusing to pay for medical care to the tariff agreement for paying for medical care provided according to the territorial program of statutory health insurance of Moscow for 2018", the amounts of withdrawals for defects of providing medical aid were taken into account, as well as for defects inprocessing primary medical documentation.

III. Results

In one particular health care center, the results of the Schwartz poll taken in two departments of a similar specialization were compared. Conditions were the same, as well as the specialization. 47 workers of two surgery units were the respondents. The medical activity for the period from January 2017 to June 2018 was examined and analyzed. There were no statistically important differences between the structures of value systems of the studied groups.

The results of ranking the most significant respondents' value guidelines revealed the differences, which are presented in Table 1. For instance, in unit 2, value "independence" ranks the third place, while in the unit 1 it is benevolence (for surgeons) and traditions (for nurses). The Heads of the departments put the same values in the first and the second places, security and universalism, yet in different order.

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Table 1. Rank of the most significant value guidelines

ank	Surgery unit №1			Surgery unit №2		
	Head of department	Surgeons	Nurses	Head of department	Surgeons	Nurses
	Universalism	Universalism	Universalism	**Security**	Universalism	Universalism
	Security	Security	Security	**Universalism**	Security	Security
	Achievements	Benevolence	Traditions	Achievements	**Self-direction**	**Self-direction**

The gaps between moral ideals and personal preferences are significantly diverse in the groups: the average gap between moral ideals and personal preferences of the heads of departments is the difference by 3.54 times, of surgeons – 1.8 times ($p<0.01$ for both comparisons), but no significant difference was observed between the groups of nurses: Table 2.

Table 2. The gaps between moral ideals and individual priorities in the studied departments (in points of the Schwartz questionnaire)

Value systems	Surgery unit №1			Surgery unit №2		
	Head of department	Surgeons	Nurses	Head of department	Surgeons	Nurses
By all value guidelines	4.4	6.5	8.5	1	4.3	4.9

During the study period, the average cost of medical care per patient in the surgery unit №1 was 2 times higher than in the surgery unit №2.

Based on these data, as well as on data from the reports of a medical organization in the Territorial Statutory Health Insurance Fund, the share of withdrawals for defects in the process providing medical care was 0.13% in surgery unit №1 and 0.15% in surgery unit №2. The share for defects of processing primary medical documentation was 1.5% in surgery unit №1 and 0.6% in surgery unit №2 per treated patient, respectively (Figure 4).

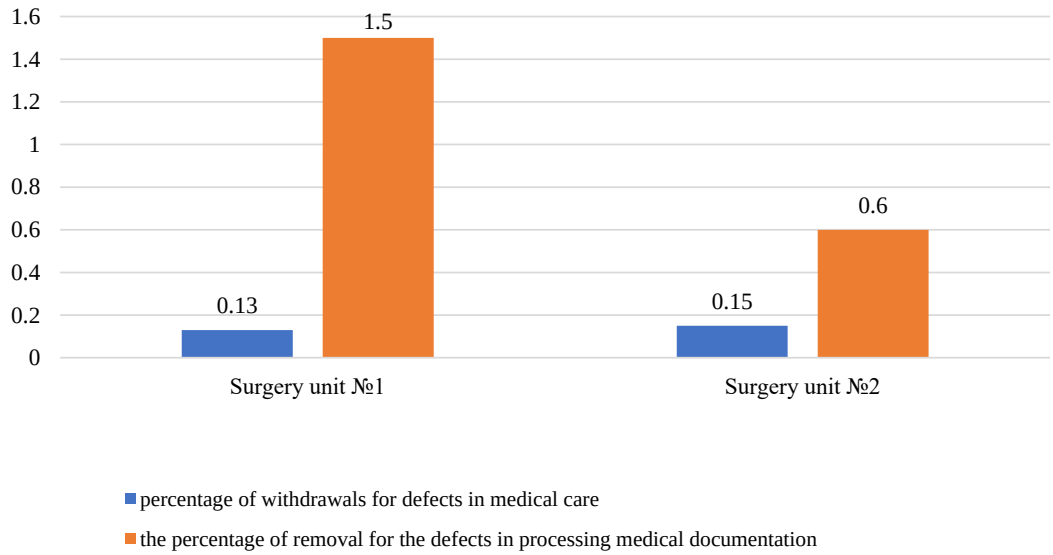

Figure 4. Shares (%) of withdrawals for defects in providing medical care and processing primary medical documentation, on average per treated patient.

IV. Discussion

As a result of the research and data processing, we proved the following hypothesis: the objective parameters of performance of similar departments depend on the value profile of key personnel.

We believe that value “self-direction” peculiar to the key personnel (surgeons, nurses) of unit №2 had a favorable effect on the following objective indicators of preparing primary medical documentation (0.6 vs 1.5). The indicator of withdrawal for defects in providing medical care slightly differs from this of unit №1 (0.13 vs 0.15).

Value “self-direction” of the key personnel manifests itself more prominently in the surgery unit №1, where the average cost of treating a patient is 2 times higher than in surgery unit №2.

We believe that surgery unit №1 and surgery unit №2 significantly differ from each other in terms of gaps between moral ideals and individual preferences of their workers (in points of the Schwartz questionnaire). Surgery unit №2 is a cohesive team according to their values declared.

Personnel that defines the value "self-direction" as the leading one in its structure is the change leader in the unit.

V. Conclusions

Based on the results of the work, the following conclusions are drawn up:

1) The structure of the most significant value guidelines at the level of groups under study is represented by the range of the following values: Universalism (understanding, tolerance, protection of well-being), Security (security of other people and oneself, harmony), Achievement (personal success through the

manifestation of competence corresponding to social standards), Self-direction (independence of thinking). Value "Self-direction" is a criterion for identifying Change leaders in a department.

2) The size of gaps between moral ideals and individual priorities of the heads of surgery departments under study differs approximately by four times; of surgeons – by two times; no difference is observed in the gap sizes of nurses. This suggests that sizes of gaps between the heads' "word" and "deed" are copied by surgeons, but do not influence nurses.

3) Under the same conditions, the quality indicators of both the organization and provision of medical care differ in the two surgeon departments under study. The amount of withdrawals for defects in processing primary medical documentation per one treated patient in surgery unit №1 is twice more than in surgery unit №2. The same differences are observed when assessing the quality of medical care, taking into account the seriousness of patient's condition in surgery unit №2 (the average cost of treating one patient is 2 times higher there than in surgery unit №1).

Thus, the results of the study allow evaluating interdependences between the value profile of the key personnel in units and the quality of medical care and activities on providing services to patients.

Prospects

The present study represents the implementation of the first stage that lies in identifying the peculiarities of the organizational culture of health care workers. The data obtained should be considered when making a Change Leader PDCA Model (Figure 5)

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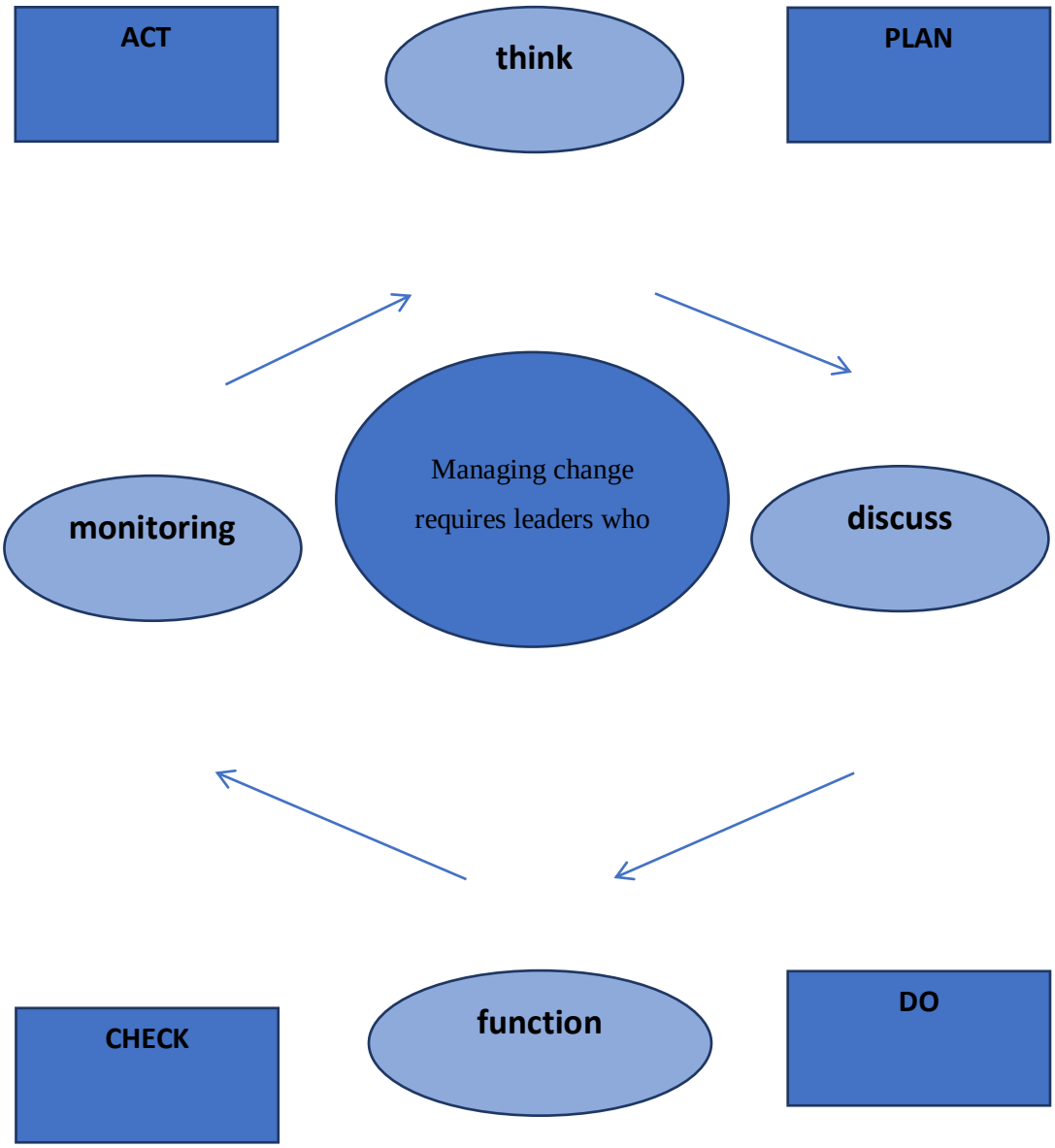

Figure 5. Change Leader PDCA Model

"This model provides change leaders with an order that will help them implement the desired changes in the organization. The model represents the following sequence: think before saying, say before doing, and after doing make sure that the changes are made" [7].

Implementation of the model presented is possible when conducting special group events, which called moderation sessions. During such a session, department heads and senior nurses work out their interaction. Implementation of cases became the main form of work.

To solve the problem of excessive closeness of medical social groups, it is necessary to carry out random positional de-rolings (participants randomly get a role of a head of the medical department or a senior nurse for the duration of a session). The choice of a department of a medical institution, where professional activities will be virtually performed, is random as well.

Selection of moderators accompanying each mini-group throughout the session is the important stage of preparing to the project. The moderator is to be an expert who evaluates the proposals made by participants.

Moderators should stimulate verbal activity of the participants during the session.

The rules define the boundaries of communication:

1) If you want to give a comment, raise your hand and the leading moderator will give you the floor.

2) During receiving feedback, be sure to note:

a. suggestions you like. Justify your answer

b. suggestions that need refinement. Justify your answer

c. At the third, final step of the group delegates' speeches, add your decision: to attract team members to activities in the working group or to ask for improving the proposals. In case you are ready to attract employees to further activities in working groups, immediately inform where and when you are waiting for them. If you ask to finalize their proposals, define the deadline.

The composition of persons conducting a moderation session, by position:

- leading moderator
- 5 moderators (by the number of subgroups),
- a registrar (an assistant at the entrance to the training room, who makes a draw of participants and marks them according to the list)

As part of the preliminary training, a survey of the heads of medical departments was conducted, in the framework of which the so-called performance situations involving health care workers were determined.

For a day patient department, the following performance situations were considered:

1. Encounter of a patient with suspected measles
2. Situation of "violent visitor" (drunk patient with a knife)
3. Life-threatening indicators obtained during patient examination
4. Long queue of patients
5. Patient who does not understand Russian

For an Intensive Care Unit:

1. Unconscious patient falls off an ambulance cart
2. The supply of essential drugs ran out at night,
3. They took a wrong patient and wrote a wrong medical prescription (they injected a wrong medicine)
4. Fire in an operating theatre during abdominal surgery
5. Relatives want to hold ritual ceremonies

For a Department of Oncological Surgery:

1. A person (visitor, employee or patient) has cardiac/respiratory arrest
2. Intravenous injections of the same drug caused the same symptoms (for example, repeated vomiting) in all patients, to whom it was injected
3. 50% of patients in the department have signs of gastrointestinal intoxication
4. A patient or his guardians refuse(s) a vital procedure due to religious beliefs
5. Procedure for prescribing and executing medicinal prescriptions

For the Department of Obstetrics:

1. Loss of a newborn
2. A postpartum woman dropped her newborn child (the child was seriously injured)
3. A postpartum woman attempted suicide
4. There is no water in the department (accident)
5. Postpartum leave (all stages)

For the therapeutic department:

1. The procedure for hospitalization into the department (all stages)
2. Loss of medical records of inpatients
3. The conflict of patients or their relatives with the staff of the department
4. Refusal of the patient from hygiene procedures
5. The procedure for stating the death of a patient (all stages).

The topics for working in a mini-group are chosen by online voting, which is assumed to increase the interest of session participants in the effectiveness of implementing the proposed solutions.

Special attention is to be paid to dividing all the actions proposed into three groups:

1. actions of personnel that can always be implemented
2. actions of personnel that can be carried out in exceptional cases (with distinguishing the options for exceptions)
3. forbidden actions of personnel of medical institutions.

During the moderation session, which lasts 4 hours, participants actually form an algorithm that allows developing clear instructions for the actions of medical personnel during occupational situations, including emergency ones.

We believe that such a mode of work will be effective when building new teams within the period of their adaptation to professional activities.

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