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Gerasimenko V.V. 

Lomonosov Moscow State University, Moscow, Russia

e-mail: research202618@yahoo.com

MANAGEMENT INNOVATIONS AS A FACTOR IN THE TRANSFORMATION OF MEDICAL INSTITUTIONS

Abstract

The article addresses the problem of managing organizational change in healthcare organizations in the context of implementing managerial and educational innovations, using the case of a Basic Life Support (BLS) educational program implemented within a large multidisciplinary medical organization. The relevance of the study is driven by the high mortality rate from cardiovascular diseases, the low level of first-aid preparedness among the population, and the need to institutionalize educational initiatives as a tool of strategic healthcare transformation. The purpose of the study is to develop methodological and practical foundations for change management in the implementation of managerial and educational innovations in medical organizations, using the implementation and scaling of the BLS program as a case example. The research methodology is based on a mixed-methods approach, combining analysis of classical change management models (K. Lewin, J. Kotter, ADKAR, McKinsey 7S), a review of the organization's strategic documentation, and an empirical survey of 1,235 respondents from five regions of the country together with a survey of 84 staff members of the organization. The study found that 31.2% of respondents lack basic knowledge of BLS, while only 9.8% have completed training; at the same time, interest in training exceeds 70%,

with the highest interest shown by medical workers, teachers, and transport-sector employees. Based on a SWOT analysis and an assessment of organizational readiness, a model for scaling the program through a partnership business network involving state, educational, and corporate structures is proposed, and the project's break-even point is calculated at 2,320 trained participants. The study's results can be used by healthcare and educational organizations when designing change management programs in the field of public health, as well as when implementing other managerial and technological innovations.

Keywords: economy, change management, management innovation, organizational culture, medical education, program scaling, partnership networks.

Герасименко В.В.



Московский государственный университет имени М.В. Ломоносова, г. Москва, Россия

e-mail: research202618@yahoo.com

УПРАВЛЕНЧЕСКИЕ ИННОВАЦИИ КАК ФАКТОР ТРАНСФОРМАЦИИ МЕДИЦИНСКИХ УЧРЕЖДЕНИЙ

Аннотация

В статье рассматривается проблема управления организационными изменениями в медицинских организациях в условиях внедрения управленческих и образовательных инноваций - на примере внедрения образовательной программы базовой реанимационной поддержки (Basic Life Support, BLS) в крупной многопрофильной медицинской организации. Актуальность исследования обусловлена высокой смертностью от сердечно-сосудистых заболеваний, низким уровнем подготовки населения к оказанию первой помощи и необходимостью институционализации образовательных инициатив как инструмента стратегической трансформации здравоохранения. Цель работы - разработка методологических и практических основ управления изменениями при внедрении управленческих и образовательных инноваций в медицинских организациях на примере внедрения и масштабирования программы BLS. Методология исследования основана на смешанном подходе: анализе классических моделей управления изменениями (К. Левин, Дж. Коттер, ADKAR, McKinsey 7S), изучении стратегической документации организации, а также эмпирическом анкетном опросе 1235 респондентов из пяти регионов страны и опросе 84 сотрудников организации. Установлено, что базовыми знаниями о BLS не обладают 31,2 % опрошенных, обучение прошли лишь 9,8 %, при этом заинтересованность в обучении превышает 70 %, а наивысший интерес демонстрируют медицинские работники, педагоги и работники транспортной сферы. На основе SWOT-анализа и оценки организационной готовности предложена модель масштабирования программы через партнёрскую предпринимательскую сеть с участием государственных, образовательных и корпоративных структур; рассчитана точка безубыточности проекта - 2320 обученных участников. Результаты исследования могут быть использованы медицинскими и образовательными организациями при проектировании программ управления изменениями в сфере общественного здравоохранения, а также при внедрении иных управленческих и технологических инноваций.

Ключевые слова: экономика, управление изменениями, управленческие инновации, организационная культура, медицинское образование, масштабирование программ, партнёрские сети.

В.В. Герасименко 

М.В. Ломоносов атындағы Мәскеу мемлекеттік университеті, Мәскеу қ., Ресей
e-mail: research202618@yahoo.com

БАСҚАРУШЫЛЫҚ ИННОВАЦИЯЛАР МЕДИЦИНАЛЫҚ МЕКЕМЕЛЕРДІ ТРАНСФОРМАЦИЯЛАУ ФАКТОРЫ РЕТІНДЕ

Аңдатпа

Мақалада медициналық ұйымдардағы ұйымдастырушылық өзгерістерді басқару мәселесі басқарушылық және білім беру инновацияларын енгізу жағдайында, ірі көпсалалы медициналық ұйымда базалық реанимациялық қолдау (Basic Life Support, BLS) бойынша білім беру бағдарламасын енгізу мысалында қарастырылады. Зерттеудің өзектілігі жүрек-қан тамырлары ауруларынан болатын жоғары өлім-жітім деңгейімен, халықтың алғашқы көмек көрсетуге дайындығының төмендігімен, сондай-ақ білім беру бастамаларын денсаулық сақтауды стратегиялық трансформациялау құралы ретінде институттандыру қажеттілігімен айқындалады. Жұмыстың мақсаты - медициналық ұйымдарда басқарушылық және білім беру инновацияларын енгізу кезінде өзгерістерді басқарудың әдіснамалық және практикалық негіздерін BLS бағдарламасын енгізу және кеңейту мысалында әзірлеу. Зерттеу әдіснамасы аралас тәсілге негізделген: өзгерістерді басқарудың классикалық модельдерін (К. Левин, Дж. Коттер, ADKAR, McKinsey 7S) талдау, ұйымның стратегиялық құжаттамасын зерделеу, сондай-ақ елдің бес өңірінен 1235 респондент арасында және ұйымның 84 қызметкері арасында жүргізілген эмпирикалық сауалнама. BLS туралы негізгі білімі жоқ респонденттердің үлесі 31,2 %-ды, оқудан өткендер үлесі небары 9,8 %-ды құрайтыны анықталды, оқуға деген қызығушылық 70 %-дан асады, ал ең жоғары қызығушылықты медицина қызметкерлері, педагогтар және көлік саласының қызметкерлері танытып отыр. SWOT-талдау және ұйымдастырушылық дайындығын бағалау негізінде мемлекеттік, білім беру және корпоративтік құрылымдардың қатысуымен серіктестік кәсіпкерлік желісі арқылы бағдарламаны кеңейту моделі ұсынылды; жобаның шығынсыздық нүктесі - 2320 оқытылған қатысушы ретінде есептелді.

Зерттеу нәтижелерін медициналық және білім беру ұйымдары қоғамдық денсаулық сақтау саласындағы өзгерістерді басқару бағдарламаларын әзірлеу кезінде, сондай – ақ, басқа да басқарушылық және технологиялық инновацияларды енгізу барысында пайдалана алады.

Түйін сөздер: экономика, өзгерістерді басқару, басқарушылық инновациялар, ұйымдастырушылық мәдениет, медициналық білім беру, бағдарламаларды кеңейту, серіктестік желілер.

Introduction

Change management in healthcare systems is regarded today as one of the key areas of strategic management, ensuring the sustainable development and adaptation of medical organizations to rapidly changing external and internal conditions (Lewin, 1951). Modern healthcare institutions operate under conditions of continuous technological modernization, growing regulatory requirements, and rising patient expectations, while social and demographic shifts - an aging population and a growing burden of chronic disease - further increase pressure on healthcare systems. Change management in a medical organization is not a one-off event but a continuous process spanning levels from individual behavioral change among staff to institutional transformation of organizational culture and operating processes (Kotter, 2012). The specifics of staff organizational behavior, leadership, and communication in medical institutions as factors shaping receptiveness to change are examined in detail in the specialized healthcare management literature (Borkowski, 2020).

This issue is particularly relevant in the context of implementing managerial and educational innovations in healthcare organizations, of which Basic Life Support (BLS) programs are a representative example - a standardized system of training in basic techniques for providing emergency pre-medical assistance in cases of cardiac or respiratory arrest. Timely and correctly administered first aid can reduce mortality in sudden critical conditions by 30–50%, making the dissemination of such skills a strategically important public-health task (Berwick, 2003). At the same time, available data indicate that only about one-third of the population possesses basic knowledge of BLS, and the vast majority have never undergone relevant training, pointing to a gap between the declared importance of first aid and the population's actual level of preparedness.

The issue of organizational transformation is widely represented in the classical works of researchers abroad. The theoretical foundations of change management were shaped most significantly by K. Lewin (1951), with his three-phase model of “unfreezing – changing – refreezing”; J. Kotter (2012), with his eight-step model of change implementation centered on leadership and staff engagement; J. Hiatt (2006, 2020), the author of the behavioral ADKAR model describing the individual stages of undergoing change; and the McKinsey team (Peters & Waterman, 1982), who proposed the systemic “7S” model. A substantial contribution to understanding the “soft” aspects of transformation was made by P. Checkland's (1999) soft systems methodology, while questions of organizational culture and its role in the sustainability of change are addressed in the work of E. Schein (2010) and K. Cameron and R. Quinn (2011). Particular attention is warranted for P. Senge's (2006) concept of the learning organization, which is applicable to analyzing the capacity of medical institutions for self-renewal.

In the national context, questions of organizational development in healthcare are studied predominantly at the applied level. For instance, Z.Zh. Baigozhina (2022) examines the role of nursing management in ensuring sustainable transformation of clinical institutions; B.T. Sydykova and co-authors (2023) investigate the architecture of digital transformation and workforce capacity in the sector; Zh.S. Abdrakhmanova and Ye.S. Nurekenova (2021) examine the impact of digitalization on the effectiveness of the national medical system; and L.A. Korchevskaya (2020) addresses the institutional barriers to transforming the market for medical services. Closely related to the present study is recent domestic research assessing population satisfaction in the reengineering of public medical-administrative processes, which likewise highlights the gap between institutional reform efforts and the public's perceived experience of healthcare services (Maldynova et al., 2026). Nevertheless, existing research has largely overlooked BLS programs as an instrument of systemic organizational change: they are most often studied as a technical course or an element of clinical training, while their role in transforming culture, communication, and managerial practice remains unexplored. This defines the scientific novelty of the present study, which seeks to reconsider the role of first-aid training programs as a case of managerial innovation within the strategic development of medical organizations.

The object of the study is a large multidisciplinary medical organization that integrates clinical, educational, and research activity. The subject of the study is the managerial mechanisms for implementing managerial and educational innovations, using BLS as a specific example, within the structure of such an organization. The purpose of the article is to develop the methodological and practical foundations of managing organizational change in a medical organization in the context of implementing innovations, using the implementation and scaling of a BLS program as a case example. To achieve this purpose, the following tasks were addressed: to examine current theoretical approaches to change management as applied to the specifics of healthcare; to investigate the internal and external conditions for implementing change in an academic medical setting; to assess the potential of the BLS program as an instrument for transforming organizational practices; to conduct an empirical analysis of how the program is perceived by the population and by the organization's

staff; and to formulate proposals for scaling and institutionalizing BLS-type managerial innovations within the national healthcare system.

Materials and methods

The research methodology is based on a mixed-methods approach combining qualitative and quantitative techniques of data collection and analysis, which allowed for a comprehensive examination of the change-management problem using the implementation of a BLS program in an academic medical setting as a case study.

The first method was a review and analytical treatment of the scholarly and applied literature covering key theoretical approaches to change management in organizations (the models of K. Lewin, J. Kotter, ADKAR, and McKinsey 7S), the principles of systems and behavioral management, and questions of corporate culture transformation and the introduction of innovative training programs in healthcare. Both international sources and the work of Kazakhstani authors were used, which allowed general theoretical models to be adapted to the context of the domestic medical system.

The second method was an analysis of the internal documentation and strategic materials of the organization under study - its strategic development plans, staff training regulations, local standards, and reporting forms on the implementation of educational programs, as well as data on the organization's institutional accreditation status, including national accreditation at the highest category and internationally recognized accreditation for clinical quality and safety and for postgraduate medical training.

The third and principal empirical method was a population survey aimed at assessing the level of awareness, interest, and readiness to participate in the BLS program. The questionnaire included blocks of closed questions for quantitative analysis and open questions for gathering qualitative information (motivation, participation barriers, expectations, and evaluation of the organizational side of training). Data were collected through an online survey and in-person interviews, allowing a broad and heterogeneous audience to be reached. The survey involved 1,235 respondents of varying age, social status, and occupational background from five regions of the country, selected on the basis of data indicating a high mortality rate from cardiovascular disease. In parallel, a survey was conducted among 84 staff members of the organization across different departments who had already completed BLS training, aimed at assessing satisfaction, perceived usefulness of the training, and readiness for practical application of the skills.

Processing and interpretation of the survey results were carried out using descriptive statistics, with respondents grouped by key parameters (region, position, department, and level of clinical training). A SWOT analysis was applied to substantiate the program-scaling strategy, systematizing the program's strengths and weaknesses as well as the opportunities and threats affecting its development. The economic feasibility of scaling was assessed by calculating the project's break-even point using the formula: break-even point (in groups) = total implementation cost / cost of training one group.

Results and discussion

Analysis of the organizational profile of the medical organization under study showed that it represents a mature institutional model integrating clinical, educational, and research activity within a broader strategic framework for academic medicine. Medical services account for 80.5% of the organization's operational activity, while education accounts for 1.1% and research for 0.6%; this is nonetheless accompanied by sustained research output: over a recent five-year period the organization carried out 33 research projects, published 270 articles in peer-reviewed journals, and introduced 247 new medical technologies. The organization's financial structure is characterized by a high dependence on state funding (around 71–72% of revenue), which ensures current stability but limits the flexibility of strategic planning. A multi-tiered system of national and internationally recognized accreditations attests to the organization's readiness for systemic change; however, the analysis also

revealed constraining factors: bureaucratic inertia, insufficient staff involvement in initiative planning, and fragmentation of the resources allocated to supplementary educational programs, including BLS.

The results of the population survey revealed a substantial gap between the importance of first-aid skills and the population's actual level of preparedness (Table 1). It was found that 31.2% of respondents had never heard of the BLS program, while only 9.8% of those surveyed had completed training. The training coverage rate varied considerably by region - from 7.0% in the lowest-coverage region to 14.0% in the highest-coverage region - indicating uneven access to educational resources. At the same time, interest in training remained high (Figure 1): 34.3% of respondents were very interested in taking the program and 38.5% were somewhat interested, while the combined share of those not interested did not exceed 13.5%. The highest level of interest was shown by medical workers (50% “very interested”, 30% “somewhat interested”), as well as teachers and transport-sector employees, which corresponds to the professional relevance of first-aid skills for these groups.

Table 1

Key Indicators from the Population Survey on Perceptions of the BLS Program (%)

Indicator	Value, %
No basic knowledge of the BLS program	31.2
Completed BLS training	9.8
Do not know where to receive training (barrier)	34.2
Lack of time (barrier)	31.7
Consider training too expensive (barrier)	15.4

Note. Compiled by the author based on data from the author's original survey.

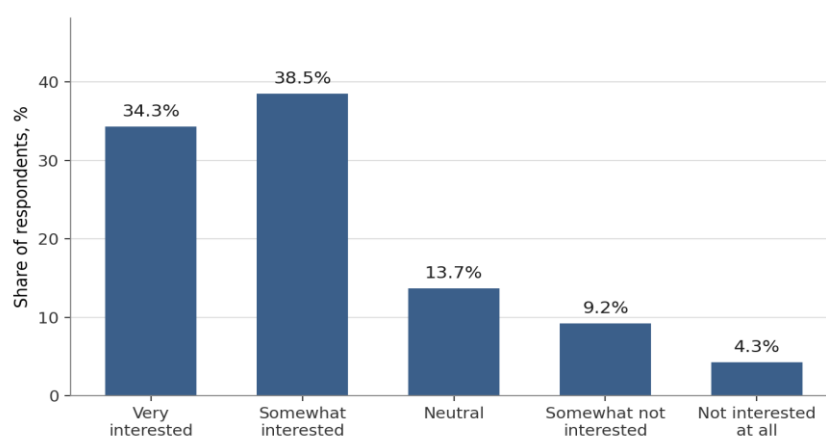


Figure 1 – Level of respondent interest in BLS training, % (n = 1,235)

Note – compiled by the authors based on the results of the empirical study

Among the reasons preventing respondents from completing training, the most frequently cited were lack of information on where to take courses (34.2%), lack of time (31.7%), and high training cost (15.4%); additional barriers noted included psychological fear of making a mistake while providing assistance and a perceived lack of personal responsibility for emergency response. Interpreting these barriers through the lens of Kotter's model suggests that the “unfreezing” stage - building a sense of urgency and a recognized need for change among the population - has not yet been completed at the national level: a significant share of society does not perceive low first-aid readiness as a pressing problem. From the standpoint of the ADKAR model, the barriers identified relate primarily to the Awareness and Ability stages, indicating a need to prioritize investment in information campaigns and the reduction of logistical and financial barriers to access, rather than focusing solely on expanding course content.

A survey of the organization's staff who had already completed the program showed a high level of satisfaction with how the training was organized and with the perceived practical usefulness of the skills acquired, confirming the applicability of Checkland's (1999) soft systems methodology: involving staff in a dialogue about the content and format of training helped reduce resistance and build intrinsic motivation to apply the competencies gained.

Building on this analysis, together with the results of the SWOT diagnostic of the BLS program, a model for scaling the program through a partnership business network is proposed. The program's strengths include a qualified pool of instructors, a well-developed technical and material base, and training materials that meet current medical standards; its weaknesses include limited financial resources, insufficient digitalization, and logistical difficulties in reaching remote regions. The network's key proposed partner is the country's national research institute for labor protection, operating under the ministry responsible for labor and social protection, which has a network of branches across the country's regions, making it possible to integrate BLS into national occupational-safety standards and extend the program's reach into manufacturing and mining enterprises, where the largest shares of occupational injury are recorded (30% and 24%, respectively). Additional partners identified include district administrations, local executive authorities, educational institutions, and the corporate sector.

The economic evaluation of scaling the program showed that, with a training cost of 250,000 monetary units per group of ten people and a total project implementation cost of 58,000,000 monetary units, the break-even point is reached after training 232 groups, or 2,320 participants. Given the scale of the potential target audience - medical workers, teachers, and students (more than 575,000 people in the higher-education system alone), as well as industrial workers (more than 1.6 million people employed in conditions that do not meet sanitary and hygienic requirements) - reaching the break-even point appears economically realistic, confirming the financial soundness of the proposed scaling model.

These findings are broadly consistent with international evidence on the value of institutionalizing BLS as an element of national public-safety strategy (Berwick, 2003) and complement domestic research on digital transformation and workforce capacity in healthcare (Sydykova et al., 2023; Abdrakhmanova & Nurekenova, 2021). They also align with recent findings on population satisfaction with the reengineering of public medical-administrative processes, which likewise point to persistent gaps between institutional reform efforts and users' perceived experience (Maldynova et al., 2026), demonstrating that a first-aid training program can be viewed not only as a technical discipline but also as an instrument for transforming organizational culture, inter-agency cooperation, and the patient-centeredness of medical organizations. More broadly, these results are consistent with empirical evidence on the implementation of managerial and technological innovations in organizations: recent research on the adoption of artificial intelligence in the marketing management practice of Russian companies likewise shows that the success of innovation implementation depends primarily on organizational readiness, staff engagement, and the presence of institutional and informational barriers, rather than solely on the technical merits of the innovation itself (Gerasimenko et al., 2024).

Conclusion

This study developed the methodological and practical foundations for managing organizational change in a medical organization in the context of implementing managerial innovations, using the implementation and scaling of a Basic Life Support educational program within a large medical organization as a case example. The synthesis of classical change management models - Lewin, Kotter, ADKAR, and McKinsey 7S - supplemented by soft systems methodology and the concept of the learning organization, made it possible to construct a multi-level analytical framework in which change is treated not as a single managerial decision but as a process encompassing strategy, structure, culture, and individual staff motivation.

The empirical part of the study confirmed a substantial gap between society's need for first-aid skills and the population's actual level of preparedness: with awareness among fewer than one-third of respondents and training coverage below 10%, interest in taking the program exceeds 70%, creating favorable conditions for scaling BLS provided that informational, logistical, and financial barriers are

addressed. The analysis of organizational readiness showed that the studied organization possesses the necessary institutional capacity - international accreditation, research and educational infrastructure, and partnership ties - although fully operationalizing change will require strengthening staff-engagement mechanisms and digitalizing the educational process.

The scientific novelty of the study lies in treating the BLS program not as a narrowly technical course but as an example of a broader class of managerial innovations in healthcare and as an instrument of institutional transformation for a medical organization, capable of engaging mechanisms of organizational-culture change, staff motivation, and cross-sector cooperation. The practical significance of the work lies in the development of a model for scaling BLS through a partnership business network involving the national research institute for labor protection, local executive authorities, and the corporate sector, together with an economic justification of the project with a calculated break-even point of 2,320 participants. The proposed approach can be adapted by other medical and educational organizations in different countries and regions when designing change-management programs built around the implementation of managerial and technological innovations in public health. Further research should be directed toward a longitudinal assessment of the effectiveness of BLS institutionalization and a comparative analysis of scaling models across different types of medical organizations.

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