



*Міністерство охорони здоров'я України
Міністерство освіти і науки України
Національний фармацевтичний університет
Кафедра менеджменту, маркетингу та
забезпечення якості у фармації*



МАТЕРІАЛИ

**XII науково-практичної internet-конференції з міжнародною участю
«МЕНЕДЖМЕНТ ТА МАРКЕТИНГ У СКЛАДІ
СУЧАСНОЇ ЕКОНОМІКИ, НАУКИ, ОСВІТИ,
ПРАКТИКИ»
(19 березня 2026 р.)**



MATERIALS

**of XII scientific and practical internet-conference
with international participation
«MANAGEMENT AND MARKETING IN THE MODERN
ECONOMY, SCIENCE, EDUCATION AND PRACTICE»
(19 March 2026)**

Харків

2026

СЕКЦІЯ 2 МЕНЕДЖМЕНТ ФАРМАЦЕВТИЧНОЇ ДІЯЛЬНОСТІ ТА СИСТЕМИ ОХОРОНИ ЗДОРОВ'Я

STRATEGIC APPROACHES TO ENHANCING THE COMPETITIVENESS OF BIOMEDICAL RESEARCH IN A HIGHLY COMPETITIVE GRANT ENVIRONMENT

Olena Litvinova¹, Atanas G. Atanasov^{2,3}

¹National University of Pharmacy of the Ministry of Health of Ukraine, Kharkiv, Ukraine

²Ludwig Boltzmann Institute Digital Health and Patient Safety, Medical University of Vienna, Vienna, Austria

³Institute of Genetics and Animal Biotechnology of the Polish Academy of Sciences, Jastrzebiec, Poland

hlitvinova@gmail.com

Biomedical research is a key driver of healthcare development, the innovation economy, and improvements in population health and life expectancy. Investments in biomedicine generate a significant economic impact (approximately \$2.5 for every dollar invested, according to the NIH), while also stimulating innovation and job creation [1]. In the context of an aging population and the growing burden of chronic and rare diseases, advancing biomedical research is considered a long-term strategic priority.

At the same time, limited financial resources lead to increased competition for grant support in academic research [2]. The relevance of this issue is evidenced not only by the growing number of scientific publications but also by active discussions on grant competition, funding, and the sustainability of scientific careers within the professional community, including academic debates and scientific social media. In this context, the analysis of factors contributing to the development and maintenance of competitive advantages in biomedical research becomes particularly important.

The aim of the work is to analyze current trends in biomedical research funding and systematize strategic approaches to developing competitive advantages

in a highly competitive grant environment.

Materials and Methods. The study is based on the analysis of publications from the bibliometric databases Web of Science and Scopus, reports from international organizations.

Results. The results of the analysis reflect the dynamics of the biomedical publication landscape, manifested in Europe's sustained contribution to biomedical research, the growth of scientific activity and investments in China, as well as potential shifts in the NIH funding model in the United States [3]. An analysis of highly cited biomedical publications conducted by J. P. A. Ioannidis indicates that the NIH continues to play a significant role in research funding; however, its frequency of mentions in recent publications is lower compared to previous decades [4].

According to data from the World RePORT platform and the World Health Organization, funding for biomedical research is characterized by a high concentration both geographically and thematically [5, 6]. In 2023, the majority of grant funds were allocated directly to research activities, while the remaining portion supported training and the strengthening of research capacity; low-income countries received only a limited share of this support. Among non-communicable diseases, the largest share of research focused on neuropsychiatric disorders, malignant neoplasms, and cardiovascular diseases.

Schmallenbach L. et al. note that assessing the alignment of biomedical research with the global burden of disease is an important tool for research planning and strategic resource allocation, contributing to effective scientific progress and the improvement of population health [7]. In this context, a retrospective analysis by Pistollato F. et al. showed that within the FP7, H2020, and Horizon Europe programs, a relatively small proportion of projects were focused on disease prevention [8]. An analysis by Maio A. et al. of 67 projects from EC funding revealed that personalized prevention was predominantly focused on cancer and also addressed neurological, cardiovascular, and metabolic diseases, with the primary emphasis on early stages of prevention [9]. At the same time, certain areas, including women's health, have the potential for broader inclusion in funding programs [10].

Scientific evidence convincingly demonstrates the high economic efficiency of investments in health research. Prevention, early diagnosis, and innovative treatment methods help reduce long-term healthcare costs, decrease losses associated with disability, and extend the period of active workforce participation. Thus, support for biomedical research serves simultaneously as a tool for social policy and economic development.

The growth in the number of applications alongside relatively stable budgets is accompanied by an increase in administrative and organizational work related to the preparation and management of grant projects [11, 12]. Significant costs of competitive funding are associated with the large amount of time scientists spend preparing applications, and the system's focus on "safe" topics may limit risky and potentially breakthrough research. Ongoing competition for grants can also increase stress and negatively affect research working conditions, highlighting the need for further empirical studies on research funding systems.

In a highly competitive environment, the key factors for a researcher's success are a strong track record, international visibility, high-quality publications, and experience in large research consortia [13]. International and interdisciplinary collaborations increase the likelihood of securing funding by providing access to infrastructure and complementary expertise, which is particularly important for participation in major EU framework programs. Even with current funding, researchers continue to submit applications for new projects, ensuring the continuity of research and the development of their scientific programs..

A key aspect of a successful strategy is also the diversification of funding sources and the consideration of the specific priorities of funding agencies when developing research programs [14]. Systematically underfunded areas may represent promising niches for developing competitive advantages, especially when relevant expertise is available and their significance can be well justified. Understanding global and regional priorities, the ability to demonstrate the relevance of the work to public health, and alignment with the programmatic objectives of funding organizations are critically important for achieving success.

Europe is currently preparing the next Framework Programme for Research and Innovation (FP10), the successor to Horizon Europe, which will define research and innovation funding for the period 2028–2036. According to recommendations from the BioMed Alliance, which unites leading European medical societies, further improvements in biomedical research funding mechanisms are needed, including reducing administrative burdens, increasing procedural transparency, and focusing project evaluations on their scientific and societal relevance. Health and biomedical research should be established as a strategic priority within FP10, providing stable investments across the entire research process, from fundamental science to clinical implementation, as well as the development of research personnel and infrastructure [15].

Conclusions. High grant competition in biomedical research is a structural consequence of the growth of scientific activity under conditions of limited financial resources and highly concentrated funding. Competitive advantages are built on a strategic combination of scientific novelty, a strong and sustainable research profile, international and interdisciplinary collaboration, diversification of funding sources, and targeted alignment with the priorities of key funding organizations. The sustainable development of biomedical research requires a combination of individual researchers' strategies with institutional and policy-level changes, including future framework programs, to ensure efficient use of resources and long-term scientific progress.

References

1. NIH's Role in Sustaining the U.S. Economy. [cited 2026 February 10]. Available from: <https://www.unitedformedicalresearch.org/wp-content/uploads/2024/03/UMR-NIHs-Role-in-Sustaining-the-US-Economy-2024-Update.pdf>
2. Naddaf, M. (2025). Is academic research becoming too competitive? Nature examines the data. *Nature*, 646(8087), 1036–1037. <https://doi.org/10.1038/d41586-025-03119-z>
3. How EU research stacks up against the world, in three charts [cited 2026 February 10]. Available from: https://sciencebusiness.net/news/universities/how-eu-research-stacks-against-world-three-charts?utm_source
4. Ioannidis, J. P. A. (2025). Provenance and Funding of Extremely Cited Biomedical Articles Published Between 2003 and 2024. *JAMA Health Forum*, 6(9), e253045.

- <https://doi.org/10.1001/jamahealthforum.2025.3045>
5. World RePORT [cited 2026 February 10]. Available from: <https://worldreport.nih.gov/wrapp/#/search?searchId=698662df933a85aa55fd9c2b>
 6. Number of grants for biomedical research by funder, type of grant, duration and recipients (World RePORT) [cited 2026 February 10]. Available from: <https://www.who.int/observatories/global-observatory-on-health-research-and-development/monitoring/number-of-grants-for-biomedical-research-by-funder-type-of-grant-duration-and-recipients>
 7. Schmallenbach, L., Bley, M., Bärnighausen, T. W., Sugimoto, C. R., Lerchenmüller, C., & Lerchenmueller, M. J. (2025). Global distribution of research efforts, disease burden, and impact of US public funding withdrawal. *Nature Medicine*, 31(9), 3101–3109. <https://doi.org/10.1038/s41591-025-03923-0>
 8. Pistollato, F., Furtmann, F., Gastaldello, A., Petra, E., Pastorino, R., Constantino, H., & Tripodi, I. (2025). Prevention Research: Trends in Funding and Methods Across EU Biomedical Research Programmes. *European Journal of Public Health*, 35(Supplement_4), ckaf161.823. <https://doi.org/10.1093/eurpub/ckaf161.823>
 9. Maio, A., Farina, S., Osti, T., Di ionGrande, S., Pastorino, R., & Boccia, S. (2025). Scanning the horizon of personalized prevention research: An overview of ongoing European funded initiatives. *Frontiers in Public Health*, 13, 1561328. <https://doi.org/10.3389/fpubh.2025.1561328>
 10. Smith, K. (2023). Women’s health research lacks funding—These charts show how. *Nature*, 617(7959), 28–29. <https://doi.org/10.1038/d41586-023-01475-2>
 11. Meadmore, K., Church, H., Crane, K., Blatch-Jones, A., Recio Saucedo, A., & Fackrell, K. (2023). An in-depth exploration of researcher experiences of time and effort involved in health and social care research funding in the UK: The need for changes. *PLOS ONE*, 18(9), e0291663. <https://doi.org/10.1371/journal.pone.0291663>
 12. Schweiger, G., Barnett, A., Van Den Besselaar, P., Bornmann, L., De Block, A., Ioannidis, J. P. A., Sandström, U., & Conix, S. (2024). The costs of competition in distributing scarce research funds. *Proceedings of the National Academy of Sciences*, 121(50), e2407644121. <https://doi.org/10.1073/pnas.2407644121>
 13. Mocanu, M., Rusu, V. D., & Bibiri, A.-D. (2024). Competing for research funding: Key elements impacting the evaluation of grant proposal. *Heliyon*, 10(16), e36015. <https://doi.org/10.1016/j.heliyon.2024.e36015>
 14. Janger, J., Schmidt, N., & Strauss, A. (2019). International differences in basic research grant funding – a systematic comparison. <https://doi.org/10.13140/RG.2.2.32565.93922>
 15. Ellmeier, W., Meijer, M., Madrignani, M., Simulescu, L., Karlsen, T. H., Macintyre, E., & the members of the BioMed Alliance Health Research Committee. (2025). Shaping the future of European health research: Policy recommendations of the Biomedical Alliance in Europe for Framework Programme 10 and beyond. *FEBS Letters*, 599(12), 1625–1633. <https://doi.org/10.1002/1873-3468.70079>