

REVIEW

by Prof. Stela Lyudmilova Georgieva, MD, PhD
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Regarding Dissertation on the topic:

INFECTION PREVENTION AND CONTROL – PUBLIC HEALTH CHALLENGES AND PRIORITY SOLUTIONS THROUGH THE “ONE HEALTH” APPROACH

for awarding educational and scientific degree “Doctor”

in Higher Education Field 7. Health care and sport
Professional Field 7. 4. Public Health
PhD Program „Public Health Management“

with candidate: **DRAGOMIR TSVETANOV IVANOV**

In view of protocol No. № 1/ 10.08.26 of the meeting of the Scientific Jury, determined by **order No. R-109-261/28.07.2026** of the Rector of the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna, Prof. Dr. Dimitar Raykov, MD, D.Sc, on the basis of Art. 258-269 of the ZZD, I have been appointed to present **a review** on the procedure for acquiring the educational and scientific degree "Doctor", to **Dragomir Tsvetanov Ivanov**, full-time PhD student at the Medical University - Varna, Faculty of Public Health, Department of Social Medicine and Organization of Healthcare, with scientific supervisors Prof. Dr. Desislava Ivanova Vankova, MD, D.Sc and Prof. Dr. Tsonko Paunov Paunov, MD, PhD.

Career development of the PhD student

PhD student Dragomir Tsvetanov Ivanov was born in Vidin in 1979. He graduated secondary education at the Vasil Levski Secondary School in the town of Kula. Between 1997 and 2003 he obtained a Master's degree in Veterinary Medicine from the Faculty of Veterinary Medicine at the University of Forestry in Sofia. It provides comprehensive training in veterinary medicine, with an emphasis on the epidemiology of infectious diseases. His interests focus on disease prevention, control and surveillance, including aspects related to zoonoses and the "One Health" approach. He graduated with distinction; awarded an honorary badge for excellent academic performance. In 2019, he defended a second master's degree in Public Health and Health Management from the Faculty of Public Health at the Medical University – Pleven, where he deepened his knowledge of health system management, policy development, and the organization of health services. Shows interest in evidence-based approaches to improving public health outcomes, disease prevention, and the effective implementation of health policies and practices. In 2021, he enrolled in a full-time PhD program in Public Health Management to develop a dissertation titled "Infection Prevention and Control: Public Health Challenges and Priority Solutions through the 'One Health' Approach."

The candidate, Dragomir Ivanov, has extensive professional experience as a Licensed veterinary surgeon in Belogradchik, spanning from 2008 to the present. After graduating as a veterinarian, he served as a Research fellow and Vice head of a laboratory at the National Diagnostic and Research Veterinary Medical Institute until 2005. He has held a succession of senior professional positions, including Brand Manager (Veterinary Division) at PIC CO SA, Infection Control Division Manager at MTE Ltd, and Head of the Infection Prevention and Control Department at Vega Medical / Intermedica. He was responsible for business management and new project development within a business unit covering infection prevention, general medical supplies, and surgical sutures. He leads cross-functional teams (sales and customer service), including planning, organization, and performance management. Currently he is a General Manager, Founder, and Consultant – Health Point ThinkPrevention.

Dragomir Ivanov works on acquiring and maintaining a high level of computer skills, language skills, empathetic communication, teamwork, academic writing, and presenting skills.

Assessment of the dissertation work

General characteristics

The dissertation was presented on 183 standard typewritten pages and illustrated with 12 tables and 54 figures, comprising two conceptual models developed and proposed for practical application by the doctoral candidate, and one appendix. The appendix was structured in two parts and presents the instruments (questionnaires) for collecting empirical data from veterinary and human medical professionals regarding their level of knowledge concerning the prevention and control of infections (zoonoses).

The bibliography includes 350 sources, of which 8 are in Cyrillic and 342 in Latin script.

The abstract was presented on 88 pages and accurately reflects the content of the dissertation.

Relevance of the topic

The relevance of the dissertation's topic was seriously justified by the PhD student. Disease prevention and control, and specifically the prevention and control of infections, constitute the philosophical foundation of the new public health. According to the World Health Organization (WHO) Global Strategy on Infection Prevention and Control, healthcare-associated infections (HAIs) and veterinary care-associated infections (VCAIs) are among the most common adverse events occurring in the context of healthcare delivery. They represent a significant clinical, organizational, and economic challenge, as they are associated with substantial and difficult-to-quantify economic losses, prolonged hospital stays, and impacts on the overall health status, work capacity, and quality of life of the affected individuals.

Veterinary practice also plays a key role in the spread and control of antimicrobial resistance, which develops and is transmitted through animals, food, and the environment. Scientific studies show that 60% of pathogens causing human disease originate in domestic or wild animals; 75% of highly dangerous human infections are of animal origin; and 80% of pathogens used for bioterrorism originate in animals. The social impacts are also significant: animal diseases pose a direct threat to the incomes of rural communities that rely on livestock farming; 75% of people living on less than \$2 a day depend on subsistence farming and

raising livestock for their survival. These and numerous other facts lead to the "One Health" concept, which integrates human health, veterinary medicine, and the environment; it is applicable to managing infectious disease risks, adapting health systems, and building resilience and capacity to address future health threats and humanitarian crises. The foregoing unequivocally justifies the need for a scientific analysis of the knowledge, skills, and attitudes within professional communities in Bulgaria in order to develop appropriate policies and practices to mitigate the threat of antimicrobial resistance which is a priority within European and global health strategies.

Quality assessment of the dissertation work

The **literature review** constitutes approximately one-third of the total volume of the dissertation. Drawing on a substantial number of sources (350) in both Cyrillic and Latin scripts, and employing a style that is both scholarly and accessible, this work presents an in-depth analysis of the "One Health" approach and its applicability to infection prevention and control, as well as to limiting the risk of antimicrobial resistance. The literature review is well-structured, which facilitates the comprehension of the presented information. The emergence and development of the "One Health" approach and its goal of supporting human health and well-being through the prevention, early detection, and mitigation of risks arising from the interaction between humans, animals, and the environment, are of both theoretical and practical interest. The significance of the holistic approach was examined. This approach is based on the understanding that systems should be viewed in their entirety, rather than as a collection of separate and independent parts. The need to integrate the actions of a number of international organizations - the Food and Agriculture Organization (FAO), the World Health Organization (WHO), the World Organisation for Animal Health (WOAH), and the UN Environment Programme (UNEP), was highlighted. The data regarding the historical development of concepts concerning One Health and the holistic approach are interesting. We learn that, although not referred to by that name, the roots of the concept can be traced back to the works of Hippocrates, Egyptian papyri, and treatises from ancient China. The literature review systematically examines the core principles of the "One Health" approach within global health initiatives and the associated regulatory framework. Its advantages are outlined, without overlooking the existing challenges, difficulties, and limitations associated with its implementation, as well as the prospects for its future development. The appropriate systematization and comprehensiveness of the information demonstrate the author's high level of competence regarding the subject matter.

The **objective** of the study is clearly formulated and achievable within the scope of the research conducted. It was supported by five specific tasks contributing to its achievement, comprising an in-depth study of the "One Health" approach, an analysis of the EU regulatory framework for its implementation, and an investigation and analysis of awareness, attitudes, and practices within the medical and veterinary professional communities. Developing a conceptual model to improve policies and activities for infection prevention and control and the containment of antimicrobial resistance is an ambitious task which, as shown at the end of the "Results" chapter, has been successfully accomplished.

The **methodology** attests to a scientific study that is ambitious in terms of scope, representativeness, and multi-layered nature. In adherence to the scientific research ethic principles (as confirmed by the protocol of the Ethics Committee at the Medical University of Varna) multiple sources of information were utilized, including specialized scientific literature, national and international regulatory documents, and internal programs of the technical units under observation (healthcare facilities in the Gabrovo, Silistra, and Pleven regions). A survey among medical and veterinary professionals was conducted using questionnaires specifically designed for this purpose. The variety and detailed description of the methods employed, as well as the characteristics of the subjects and healthcare facilities studied, are noteworthy. The author has also included a self-critical commentary on the study's limitations, which, while present, do not diminish the value of the results obtained.

The **empirical results** were presented in a logical sequence, discussed competently, and richly illustrated. The figures and tables are informative and clearly demonstrate the emerging patterns. Statistically significant relationships between certain variables have been identified and discussed, providing a basis for preventive measures, the need for continuing education, and strict adherence to the regulatory framework. Of particular interest, for example, is the significant difference between those who rated their knowledge as "excellent" and those who rated it as "satisfactory" (Fig. 2), as well as the high proportion of respondents who emphatically state the need for additional training in asepsis and antisepsis within the veterinary medicine curriculum (Fig. 3). This testifies to the existence of a theoretical foundation, but also to the potential for further refinement. A serious shortcoming has been identified in the practice of monitoring and evaluating the effectiveness of disinfection activities, which could compromise the overall infection prevention and control system. It has been determined that the existing system for information exchange and collaboration between veterinary and human health professionals requires improvement. The results also show that hand hygiene continues to be one of the most vulnerable links in the healthcare-associated infection control system.

In the "Discussion" section, we see that the results obtained from the study largely confirm data published by other authors.

Based on the results obtained, 15 conclusions have been formulated. In my opinion, these are quite descriptive and repeat data already discussed in the previous chapter. I believe that some of them can be combined and synthesized, which will facilitate the interpretation of the study results and their practical application. I agree with the author's formulated contributions of a theoretical and practical-applied nature, although a higher degree of information synthesis could have been achieved in their presentation as well. I consider the proposed conceptual models for integrating the "One Health" approach at institutional and national levels and for enhancing its effectiveness in infection prevention and control and the containment of antimicrobial resistance to be a significant contribution.

The recommendations are well-founded but lack a specific addressee, which could lead to a dilution of institutional responsibility for resolving the problems.

Notes and recommendations

The dissertation **meets the requirements in terms of volume and content. No significant weaknesses are found in it.**

I recommend:

1. The results of the study should be widely popularized through the publication of a monograph and articles in scientific journals.
2. When publishing articles, the conclusions should be delimited more clearly and concisely, which will better highlight their significance.

Conclusion

Dragomir Ivanov's dissertation is an in-depth, comprehensive scientific study of a current public health problem on a global scale. Innovative approaches and methods have been applied in research practice. The significant amount of empirical information was presented in the "Results" chapter and competently analyzed and discussed in the "Discussion" chapter, where conclusions were drawn that accurately reflect the results obtained. Well-founded recommendations have been made for practice and future research on the topic. The noted limitations and critical remarks do not detract from the quality of the study.

I believe that the Dissertation has been completed with contributions of a theoretical, methodological and practical-applied nature and substantiated scientific evidence for the needs of public health and the healthcare system. The PhD thesis which fully meets the requirements for awarding an educational and scientific degree of "Doctor".

I strongly recommend to the Scientific Jury to award the educational and scientific degree "Doctor" to Dragomir Tsvetanov Ivanov on the PhD Program "Public Health Management " in Professional field 7.4. Public health, Higher education field 7. Health care and sports.

11.09.2026 г.

Member of a Scientific jury: .

/Prof. S. Georgieva, MD, PhD/

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