

TO

The Chairman of the Scientific Jury

Prof. Dr. Rumen Konstantinov, dm

Medical University

Varna

REVIEW

by Prof. Dr. Ani Kevork Kevorkian, dm

head of the Department of Epidemiology and MBS,

Medical University - Plovdiv

regarding

competition for the academic position "Professor"

in scientific specialty Epidemiology (03.01.29)

announced for the needs of the "Hygiene and Epidemiology" Department of the Medical University-Varna (SG No. 59/26.07.2022) and according to (Order No. P-109-370/21.09.2022) of the Rector of the Medical University - Varna

Only candidate for the announced competition:

Assoc. Prof. Dr. Tsonko Paunov Paunov,DM

Head of the "Hygiene and Epidemiology" department at the Varna University of Medical Sciences

I. Analysis of the candidate's career profile.

Assoc.Prof. Tsonko Paunov was born in 1966 in Plovdiv. He is a graduate of the German language high school in Pazardzhik and the Medical Institute "Iv. P. Pavlov" in Plovdiv, and in 1993 he graduated from higher education and acquired a master's degree (specialty "medicine"). His professional path began as a doctor in the "Emergency and urgent medical care" unit at the City Polyclinic in Septemvri in 1993, where he worked until 1998. In the same year, after successfully passing a competition, he started working as an assistant in Epidemiology at Medical University - Varna (Department of "Infectious Diseases, Epidemiology and Tropical Medicine"). He successively held academic positions: assistant

professor (1998-2002), senior assistant professor (2002-2004), chief assistant professor (2004-2010) and associate professor of Epidemiology (since 2012). In 2010, he obtained the educational and scientific degree "Doctor" in the scientific specialty Epidemiology with the topic "Study of the role of disinfection in the control of infections in healthcare facilities". In addition to the academic career of a teacher and scientist, Assoc. Prof. Paunov also develops an active practical activity in the supervision, prevention and control of infections related to medical care / hospital-acquired infections (HIV/HIV) as from 2003 he heads the "Anti-Epidemic Control" Unit in "St. Marina" UMBAL.

As an epidemiologist from the academic circles, Assoc. Prof. Paunov is perhaps the most prepared on the issues of Disinfectology. This is both as a result of the additional qualification "Legal capacity for head of pest control activities" acquired at the NCZPB-Sofia in 2005, as well as the long-term work "in the field" as a hospital epidemiologist responsible for the disinfection policy of one of the largest university hospitals in the country, related not only to the supervision of ISMO, but also to the control of disinfections and sterilizations in medical practice.

In the course of his post-graduate qualification, Assoc. Prof. Paunov showed systematicity by presenting a report on over 10 completed training courses on various topics in the field of epidemiology: HIV/AIDS problems, innovative ideas in the field of construction and planning of modern departments for the supply of sterile materials, control of multi-resistant microorganisms in healthcare facilities, initiated by ECDC, etc.

The candidate is a qualified specialist with almost thirty years of experience, of which 25 years he devoted to the Epidemiology of infectious diseases, successfully combining teaching, research and administrative activities. Recognition of the accumulated knowledge and experience is the basis of his election in 2019 as the head of the Education Sector "Epidemiology of Infectious Diseases" in the Department of Hygiene and Epidemiology of the MU-Varna and head of the entire department from 2020.

The latest professional challenge facing Associate Professor Paunov is his appointment in November 2022, at the proposal of the Ministry of Health, to the extremely responsible post-director of the RHI-Varna.

Assoc. Prof. Paunov is fluent in written and spoken English, German and Russian languages - an important prerequisite for increasing overall qualification and growth. He is a member of a total of 6 professional and scientific organizations: BMA, USB, BAPCNI "BulNoso", Pest Control Association, BNAPH and in BNAEIND as a member of the management board since 2022.

II. General description of the submitted materials for the competition.

The submitted documents and materials for the competition meet the requirements of the Regulations for the Implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the specific requirements of the Medical University-Varna, providing evidentiary material necessary for the conduct of the present procedure.

III. Evaluation of the scientific works of the candidate for the overall academic development.

For the entire period of academic development, Assoc. Prof. Paunov is the author/co-author of 84 scientific works, and in the current competition for AP "Professor" he participated with 32, distributed as follows:

- covering the minimum scientometric requirements for filling the position under the announced competition: dissertation work (1); monograph (1); publications in scientific journals referenced and indexed in world-renowned scientific information databases (7), of which one in the journal Hematology (Poland) with IF 1,184 (Q3) and publications in peer-reviewed journals not referenced in world-renowned scientific information databases (15);
- full-text publications in scientific journals and anthologies, beyond the minimum scientometric requirements for occupying AP "Professor" and non-repeating evidentiary material according to previous procedures for occupying academic positions (8).

The first monographic work "Modern aspects of the prevention and control of infectious diseases. Part 1. Disinfection in the modern conditions of social development. Theory and Practice" is fascinatingly written in three distinct chapters, incorporating the most up-to-date information and concepts in disinfection and sterilization science, as well as proprietary research. The intimate mechanisms of interaction of microorganisms with disinfectants, their resistance in the external environment and their relation to physical effects have been examined in detail and competently; the development of new sterilization methods and their control; the introduction of new highly specialized medical equipment and technology, the decontamination of which is crucial for patient safety; the use of "reusable medical devices"; the transfer of classic methods of disinfection outside medical practice - in the field of food industry, cosmetics, hairdressing, household, etc.

In the first chapter, the author has "stepped" on classical Epidemiology (the triad of the epidemic process - from the source of infection through the mechanisms/factors of transmission and ways to interrupt the epidemic process) to develop his concept. A retrospective of infectious disease control measures over time and the personalities behind them exemplify the eternal struggle between the "world of the unseen" and humans. The information on terms, concepts and means applied in the field of disinfection, as well as the normative acts/directives at the national and European level, is well systematized. This would facilitate anyone directly involved in the implementation of decontamination activities or their control. A special place in the second chapter "Medical Disinfection and Sterilization" is devoted to the decontamination of the skin and, in particular, of the hands of the medical staff as a proven effective way to interrupt the transmission of hospital strains and accordingly reduce the level of HAI. Undoubtedly, the own experience, observations, findings and resulting recommendations presented in the third chapter of the monograph are most valuable. The importance of disinfection/sterilization in medical practice is argued with examples, as well as the need for permanent staff training on the problems of acute infectious diseases, HAI and disinfection. Based on the multimodal strategy of the WHO for hand hygiene and as a result of targeted training of 100% of the staff of UMHAT "St. Marina" in Varna (an unattainable goal for most hospital epidemiologists), an increase in compliance was observed, expressed by a 10-12% increase in the consumption of hand sanitizers. Bad practices have been described when single-use medical devices (SMDs) have been applied repeatedly and have led to sporadic HAIs and nosocomial outbreaks of *A.baumannii*, *Staphylococcus epidermidis*, etc. The distribution of the remaining scientific output (30 articles, of which 21

in Bulgarian and 9 in English) according to the candidate's place of participation in the author collectives of the specified publications confirm his active participation in the developments (concept of the scientific research and design): on 2 articles is the first author (6.7%), on 9 articles he is the second author (30%) and on another 9 (30%) he is the third author, and in the remaining 33.3% he is the fourth or subsequent author. They cover significant problems in the Epidemiology of classic infectious diseases in the following thematic areas: respiratory tract infections; intestinal infections; zoonotic infections (blood-transmissible); viral hepatitis; roof infections and HIV/AIDS. A significant part of Assoc. Prof. Paunov's works are dedicated to very important directions in the theory and practice of Epidemiology as a medical science: Infections related to medical care and Disinfection, disinsection and deratization (pest control) with a total of 10 publications; Immunoprophylaxis with 3 publications and the region-specific Maritime Epidemiology.

Expanding the scope of scientific interests is also demonstrated with topics in the field of Epidemiology of some common parasitoses in the country, such as Toxocarosis, Enterobiosis, etc., to which 6 of the publications under the current competition are dedicated.

Scientific works contain in-depth epidemiological analysis with specific conclusions and references to practice, to improve the infectious disease surveillance system, to improve immunization coverage, etc., based primarily on own studies (retrospective, prospective and cross-sectional). Expectedly and related to the position of a hospital epidemiologist, in part of the scientific developments of Assoc. Prof. Paunov, HAI is analyzed - organization of epidemiological surveillance, etiological and clinical structure, risk departments and populations, prevention, in different time periods (2006-2015, 2016-2020 and in the last year in the "shadow of COVID-19") at UMHAT "St. Marina". This enables both benchmarking and trend-setting, identifying problems and proposing prevention strategies. In the period 2016-2020, a reduced relative share of registered HAIs was found with increased consumption of antibiotics and predominant antibiotic-resistant isolates of hospital strains, which is a sign of incomplete registration. In a similar study at MHAT Varna - Military Academy for the period 2010-2020, a large relative share (41.83%) of microbiologically unproven ISMOs was also registered. Guidelines for improving a surveillance system, adequate registration and antibiotic policy are recommended. Also interesting are the findings of the increased impact of *E.coli* and *C.albicans* in 2021, under the influence of COVID-19 in the university hospital, related to antibiotic pressure. Important for practice are the results of a thorough and large-scale survey and analysis of the knowledge/application of the "Medical Standard for the Prevention and Control of Nosocomial Infections" by nurses and midwives in medical facilities, training bases and non-base ones. This is in line with the implementation of the International Patient Safety Programs of WHO and the International Alliance for Patient Safety. Precautions regarding personnel and the organization of disinfection and sterilization have been studied. Along with good practices in disinfection and sterilization, negative trends are emerging in the injuries of personnel with sharp and cutting objects in a high relative proportion. Something that other author teams (from MU-Plovdiv) also find about similar studies is noted - knowledge of the "Medical Standard for the Prevention and Control of Nosocomial Infections" is not satisfactory. All this is a reason for directing efforts towards additional/upgrading training of personnel. A serious emphasis in the research activity of Assoc. Prof. Paunov are his own studies and current literature analyzes on disinfection, disinsection and deratization. The need for the creation and development of a target program in the university hospital for action in the medical facility, regarding the organization of

activities on pest control as an element of the prevention and control of infections related to medical care and reducing the biological risk for the staff, has been proven in practice. minimum. Disinfection methods and means are thoroughly examined, and the wrong practices related to the reprocessing of disposable devices and the care of venous catheters are indicated. Special attention during the study was paid to the placement and maintenance of already placed central and peripheral venous catheters. A brief financial analysis of HAI costs in real cases has been made. Important recommendations are made about the risks and cost of risk in these activities. Due to the primary importance of disinfection in the modern conditions of social development to protect society from infectious threats, it is considered in a separate monographic work, the indisputable merits of which have already been commented on in this review.

The decline observed in recent years in the immunization coverage with vaccines from the Immunization Calendar in the country was felt most pronounced in the past year 2021. This undoubtedly contributed to the mistrust, hesitation and fear of the new generations of vaccines against COVID-19, i.e. mistrust of the new has partly transferred to the well-known, despite the proven effectiveness and safety of vaccines such as poliomyelitis, diphtheria, hepatitis B, etc. In this regard, the large-scale study of parental attitudes and hesitations towards immunizations, conducted by the candidate in a team and published in 2021, is particularly valuable, as the established regularities can support the taking of important management decisions by the Ministry of Health. As a continuation of the studies related to immunoprophylaxis, the analysis of the state of tuberculin sensitivity and the level of post-vaccination anti-tuberculosis immunity in childhood in the Varna region and the epidemiological significance of the tuberculin test were expressed, with opinions and recommendations for improving prevention. The studies on intestinal infections, taking into account the influence of the ecological and health-demographic conditions of the Dobrich region, as well as the epidemiological characteristics of the HIV infection in the Varna region for the period 2004-2017, with a problematic analysis of the peculiarities of the epidemic process, are of a local contributing nature. the conditions of intensive international transports and journeys by sea transport with specific recommendations on reducing the degree of infectious risk with an emphasis on medical specialists and persons practicing maritime professions. Complementing the picture of the country in terms of zoonotic infections and in particular the evolution of the parasitic system in socially significant tick-borne infections are the data on Lyme disease, Marseilles fever, Crimean-Congo hemorrhagic fever and Q fever in the Varna region. A large-scale interdisciplinary epidemiological study was also carried out, in collaboration, in accordance with the objectives of the European scientific program to study and highlight the dependencies of the changing environment and the processes of emergence of tick-borne infections EDEN TBD in the Black Sea region of the Republic of Bulgaria. The candidate's teamwork is the basis of joint studies with specialists in parasitology. On the basis of a large-scale study of 14,611 patients with routine parasitological laboratory methods for the country, the epidemiological structure of parasitic diseases in the Varna region is presented, valuable conclusions are drawn about the growing epidemiological significance of the "hidden" incidence of parasitic diseases and the need to differentiate the approach and the normative base. Assoc. Prof. Paunov's participation in a study of the epidemiology, etiology, diagnosis, clinic, treatment and control of Toxocarosis - a zoonosis of global importance, but little known in our country and unresearched so far in the Varna region, is of a contributing nature to the country. A particularly valuable contribution, both of scientific and practical

value, is the implementation by the research team in 2015 of the serological test for specific antibodies (ELISA) for toxocarosis for the first time in the scientific-diagnostic practice at the local level, which allowed to be recorded and described numerous cases of the disease in the human population. The obtained results provide information on hitherto unknown high levels of seroprevalence and significant spread of toxocarosis in the region. Looking for the cause-and-effect relationship, Assoc. Prof. Paunov and his team also carried out the first sanitary-parasitological study of the environment of public places in the city of Varna, and the discovered contamination with eggs of *Toxocara* spp. and other parasites in dogs, testifies to the lack of adequate control over domestic and stray animals and represents a real and immediate danger from the transmission of zoonotic infections.

The scale of the retrospective epidemiological analysis regarding another parasitosis - Enterobiosis in children and adults in the Varna region is also impressive, covering 71,308 laboratory results from patients examined between 2009 and 2018. In the current competition, associate professor Paunova mainly participated with publications in prestigious Bulgarian journals such as Journal of IMAB, Nosocomial Infections, Preventive Medicine, Science Infectology/Parasitology, Health Economics and Management, Health Care, Varna Medical Forum, etc. All of the above is a reason to accept the contributions indicated in the self-assessment of associate professor Paunov, contained in the presented scientific and scientific-applied works. Regardless of the fact that, according to the accepted minimum national requirements for JSC "Professor", participation in scientific forums in the country and abroad is not subject to evaluation and does not bring a corresponding number of points to the candidate, I want to dwell briefly on this activity as well. It is related to the promotion of the candidate's results and achievements among the scientific community. The total number of participations of Assoc. Prof. Paunov at specialized scientific forums in the period 2001-2022 is 59, 30 of which were after the acquisition of JSC "Docent" in 2012.

IV. Reflection of the candidate's publications in the national and foreign literature (publication image).

According to the academic reference issued by the University of Varna, the publications of Assoc. Prof. Paunov have been cited a total of 20 times, of which 13 after holding the title of associate professor. Most of the citations are from Bulgarian authors (15 citations). In Google scholar, 4 more citations from foreign authors are added, which brings the number of citations under the current procedure to 17. In the Research Gate database, the h-index of citability is 3.

V. Complex, qualitative evaluation of the teaching-methodical and teaching activities.

The teaching activity of Assoc. Prof. Paunov is related to Medical University - Varna, participating in the training of students in the following faculties: Faculty of Medicine (specialty "Medicine" 5th and 6th course in Bulgarian and in English), Faculty of Dental Medicine (specialty "Dental Medicine" in Bulgarian and in English), Faculty of Public Health (specialty "Nursing", "Midwifery", "Public Health", "Provision and Control of Public Health", "Health Management", "Health Care Management" - Masters and Bachelors) and in the Medical College (specialty "Medical Laboratory Technicians" and "Public Health Inspector" in Bulgarian).

During the academic years 2018/2019, 2019/2020, 2020/2021 and 2021/2022, according to an official report issued by MU-Varna, Assoc. Prof. Paunov has an annual workload of 348, 330,

290 and 319 hours respectively only from lectures and exercises with a norm of 126 hours. In addition, he also teaches foreign English-speaking medical students on university exchange programs.

Assoc. Prof. Paunov also participates in the post-graduate training of specialists from the specialties "Epidemiology of infectious diseases", "Infectious diseases", "Microbiology", "General medicine". He is also a member of the state examination committee for the state examination for the specialty "Epidemiology of Infectious Diseases".

The candidate actively works with young scientists and doctoral students, being the scientific supervisor of two successfully defended doctoral students (Dr. Miglena Asenova Kolarova-Dimitrova, d.m. - obtained the PhD "doctor" in 2019 and Donka Trifonova Sultanova, dm - acquired the PhD "doctor" in 2022). He is currently the supervisor of three more PhD students (Deyana Ivanova Ilieva, Zlatina Yordanova Pandelieva and Dragomir Tsvetanov Ivanov).

In conclusion, the analysis of the teaching-methodical and teaching activities carried out by Assoc. Prof. Paunov is diverse and shows accumulated solid experience.

VI. Additional scientific activity:

Associate Professor Paunov demonstrated a wide range of scientific interests as an active participant in 9 projects (6 research and 3 educational), of which 6 were after the acquisition of the academic position "Docent". The topic of the project activity is related to seroprevalence studies on toxocarosis in risk groups of the population of Northeastern Bulgaria; the epidemic process of zoonoses in the Varna region; study of morbidity from nosocomial infections; development and construction of specific training modules for health professionals and educators working with migrants and refugees on communicable diseases and mental health issues, etc. Based on this, some of the publications presented in the current competition were realized.

The candidate is an active participant in the national educational project BG05M20P001-2.013-0001 "Student internships - phase 1" and "Student internships - phase 2". In its direction, the project activity of Assoc. Prof. Paunov has a research and educational character, which enriches his research and teaching experience.

VII. Fulfillment of the minimum national requirements: Complying with the requirements of the Regulations for the implementation of The Law on the Development of the Academic Staff in RBulgaria and, respectively, that of the University of Varna, all data presented during the review were transformed into a point equivalent in order to evaluate the fulfillment of the minimum national requirements for occupying AP "Professor". With a minimum required number of points of 550, Assoc. Prof. Paunov has presented evidence for a total of 617.9 points (+33.6 points, outside the minimum required under Criterion D.), distributed accordingly:

Criterion A (Indicator 1. Dissertation work for the award of ONS "doctor" on the topic "Research on the role of disinfection in the control of infections in healthcare facilities", 2010) - 50 points;

□ Criterion C (Indicator 3. Habilitation work-monograph - "Modern aspects of the prevention and control of infectious diseases. Part 1. Disinfection in the modern conditions of social development. Theory and practice", 2022 (ISBN 978-619-221-405- 0) - 100 points;

□ Criterion D with a total of 202.9 points (+33.6 points, outside the minimum required) with a required minimum of 200 points, distributed as follows:

Indicator 7. Publications in scientific publications, referenced and indexed in world-famous databases with scientific information (Scopus and Web of Science) - 7 issues - 100 points;

Indicator 8. Publications and reports published in non-refereed journals with scientific review or in edited collective volumes) - 15 issues - 102.9 points

Full-text publications in scientific journals and anthologies, beyond the minimum scientometric requirements for holding the AP "professor" -8 items -33.6 points

□ Criterion D. with a total of 100 points with a minimum of 100 points required, distributed as follows:

Indicator 10. Citations in scientific publications, referenced and indexed in world-famous databases with scientific information or in monographs and collective volumes (Scopus and Web of Science) - 15 points;

Indicator 11. Citations in monographs and collective volumes with scientific review -50 points;

Indicator 12. Citations or reviews in non-refereed journals with scientific review - 35 points;

□ Criterion E. with a total of 165 points with a required minimum of 100 points, distributed as follows:

Indicator 14. Supervision of a successfully defended doctoral student (n is the number of co-supervisors of the relevant doctoral student) - 2 doctoral students, one of whom is the sole supervisor - 60 points;

Indicator 15. Acquired medical specialty - 1 specialty - 40 points;

Indicator 16. Participation in a national scientific or educational project - 15 points;

Indicator 17. Participation in an international scientific or educational project – 20 points;

Indicator 22. Training of interns, specialists and doctoral students (seminars and practical classes) – 30 points;

In summary, the presented data completely cover the minimum national requirements for holding JSC "Professor".

VIII. Conclusion:

Associate Professor Tsonko Paunov is an established specialist-epidemiologist with significant experience in "field" studies and hospital epidemiology, transferring practice to teaching, which makes him a memorable lecturer. I know the candidate personally, and to the qualities listed above I would like to add his collegiality and teamwork.

The presented evidentiary material under the present procedure covers the specific scientometric criteria for acquiring the academic position "PROFESSOR".

Based on this conviction, I allow myself to recommend to the members of the Scientific Jury, determined by Order No. P- 109-370/ 21.09.2022 of the Rector of the Medical University-Varna, Assoc. Prof. Dr. Tsonko Paunov Paunov, dm to be elected "PROFESSOR" in the scientific specialty "Epidemiology" for the needs of the "Hygiene and Epidemiology" Department of Medical University-Varna.

Prepared the review:

Prof. Dr. Ani Kevorkian, MD



04.12.2022