

THE NEED FOR A NATIONAL STRATEGY IN VETERINARY RESEARCH

NECESITATEA UNEI STRATEGII NAȚIONALE PENTRU CERCETAREA ȘTIINȚIFICĂ MEDICALĂ VETERINARĂ

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Before the fall of Communism, Romanian veterinary doctors had to grapple with many hardships, but precious help frequently came from the Pasteur Institute, the Animal Pathology and Hygiene Institute, veterinary medicine universities, sanitary veterinary diagnostic laboratories, and even from veterinary research farms covering clinically relevant subjects in animal species.

The relatively recent history of that period brought to light quite a few outstanding veterinary medicine researchers who made a significant contribution to the advancement of their professional practice and to the development of Romania's economy.

However, after the fall of Communism, veterinary research has seen major changes wrought in line with the country's new social and political transformations. The Romanian veterinary research strategy has been narrowed and crumbled into independent activities which seemed to lack a unifying vision. No complex coordinated researches have been conducted into farm animal-borne diseases, emerging zoonoses, or microbial resistance to antibiotics. No serious endeavor has been made to identify new prophylactic and therapeutic vaccines and sera, new medical organic molecules, or diagnostics kits. Last but not least, animal food safety has been given little importance, as countries have seen their economies growing intertwined.

Under the circumstances, the number of experts covering applied (and high tech) research has shrunk, while people already active in this field have chosen to approach fundamental research themes. This is just one of the effects caused by the ongoing system of entities accredited and financed for conducting veterinary research, as presented below.

In line with its prerogatives as a scientific and professional body, the General Association of Romanian Veterinarians (GARV) staged a national conference over how to develop the veterinary medicine profession, between 12 and 13 March 2015. One of the conference's six sections focused on revamping scientific research.

The conference brought together outspoken personalities and ended with clear and firm resolutions calling for urgent steps. But two years later veterinary research has not seen much change.

GARV strongly reiterates the aims and purposes of scientific research and hopes that relevant authorities will take action, because veterinary research runs the risk of falling short of expectations.

The current system of veterinary research accredited entities.

Veterinary research activities are currently based on research projects awarded via grant competitions to the following eligible entities:

Veterinary medicine universities (four public universities and a public private university) have broad access to grant competitions which are mainly organized and financed by the National Authority for Scientific Research (NASR), the leading state-run body handling research grant competitions in Romania. However, NASR does not propose detailed research themes. It only organizes and finances project competitions based on *new ideas in various fields of science and art*. Eligible themes may be put forward by independent young researchers, as well as by mixed research teams from a university or a consortium of universities (local universities may work jointly with foreign ones on a single project).

In other words, current project themes do not stem from the strategy of a certain domain, in our case the Romanian veterinary medicine.

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This grassroots approach model (from independent researchers to research teams and state structures) scatters excessively the human potential and fails to use it properly because of the competitive selection process involved by grants. For instance, significantly financed complex research projects are very rare in the field of veterinary medicine. Furthermore, the current system prompts researchers to concentrate on small-scale basic research and to avoid wide-reaching applied research.

On the other hand universities, as the main post-Communism actors of scientific research, have remarkably upgraded their research facilities. Besides discipline laboratories, all Romanian universities teaching veterinary medicine have at least one perfectly furnished research center, which is, indeed, a prerequisite for tackling themes of major interest for the profession's strategies. Equally commendable is that all Romanian veterinary medicine faculties have developed international ties and issue their own scientific publications. Researchers of all ages have changed their mentality in the sense of reaching out for innovative ideas. It helps them a lot in the clash for grants and personal success.

The Academy of Agricultural and Forestry Sciences (AAFS) is yet another important actor in the veterinary research system because it coordinates the research activities of Pasteur Institute, Romvac Company, the Institute of Diagnosis and Animal Health (IDAH) and the Hygiene and Veterinary Public Health Institute (HVPUI).

Pasteur Institute and Romvac Company are public private entities and are almost exclusively focused on improving their own commercial products. Therefore, they take little interest in national research grant competitions. Fortunately, their activities (including research) meet directly the demands of veterinary medicine. The other two – IDAH and HVPUI – are public interest entities directly subordinated to the National Veterinary and Food Health Authority (NVFHA). They have been attested for scientific research activities quite recently (Law 551/2007).

The attestation broadens their institutional prerogatives, but each of them carries out “niche research activities”, in line with their specialties. There are still gaps in providing the two entities with facilities and

experienced human resources needed in order to tackle strategic research themes.

Other entities authorized to carry out veterinary medicine-related research activities include biotechnology faculties, the Biology and Animal Food Institute in Balotești, the Medical-Military Research Center and David Davidescu Biodiversity Research Center which belongs to the Romanian Academy. They do not take part consistently in veterinary research activities, but their human resources could be successfully involved in far-reaching themes of our profession.

The list of legal veterinary research-related entities presented so far **lacks a national theme coordinator**. GARV alongside many personalities of our profession consider that such a strategic coordinator should be a government-run body able to propose research themes of national interest, to finance them and to impose a top down approach of the activity. We believe that NVFHA could perform this task in the case of our profession.

Human resources.

Veterinary medicine university staff perform scientific research only as complementary curriculum activities. There may be instances where laboratories hire academic staff for indefinite periods, but they are quite rare. Considering the working hours of academic employees, effective time devoted to research is often outweighed by academic and extracurricular activities, particularly during certain periods of the academic year (midterm exams, university entrance exams, National System of Continuing Education programs, licentiate, doctoral and master degree supervision, a.s.o.). This kind of approach can break up individual research activities, or overload young academic staff with suddenly critical research tasks. Both situations lead to poor research findings. Creating full-time research jobs would allow for continued experiments, particularly field ones.

Other research accredited entities stick to the employees' job description. They usually regard supplementary research programs as in-house institutional projects unlikely to seek outside counsel.

To become a scientific researcher, any novice must start as an academic student and go through successively complex stages under the supervision of academic professors, particularly while preparing licentiates, master and doctoral degrees. The meaning and goals of this long process are to attain skills which are specific to scientific research.

The overwhelming majority of fresh graduates do not feel attracted by research. They just quit the training system after one or several stages, looking for other fields of the profession, either here or abroad.

Unfortunately, this latter destination is sought by many recipients of doctorates, a category so much needed by Romanian scientific research.

However, a small number of doctorate recipients with research skills join the Romanian academic system or the other research accredited entities. They are all seen as human resources potentially qualified for research activities. They start working in teams supervised by experienced researchers and later on they can tackle more complex themes on their own, in step with their professional advancement.

Besides vocation and solid professional experience, a truly dignified researcher must show an impeccable behavior in observing the basic principles of ethics and deontology of his profession.

Thus, in order to meet research standards, a researcher must fulfil all the exigencies, like constantly improving his knowledge and avoiding any action that may compromise his professional integrity (no plagiarism, false attribution of authorship, faked experimental results, funds embezzlement, reprinted experiment findings, conflicts of interest).

A researcher must also abide by a series of basic ethical principles of research, such as: institutional accreditation (one has to join a research accredited or attested entity), experimental justification (a correct assessment of potential benefits obtained from a research project), human and environmental risk assessment and prevention strategies.

Beside these ethical principles, our profession requires specific standards: containing disease outbreaks and spreads, protecting animals used for scientific purposes (constantly checking the environment of animal experiments), and observing the animal welfare's three Rs (*Reduction, Replacement, Refinement*) in all animal testing protocols.

Getting research findings into practice.

Multiple and varied methods of putting research findings into practice include scientific papers disseminated by specialized journals (most sought after are journals validated by the International Scientific Indexing), presentations during scientific symposia, conferences and congresses, licenses, technology improvements, specialized books, etc.

Romanian veterinary medicine has responsibly turned to good account research findings and has managed to preserve animal and public health. But the results are still modest and have not substantially improved the quality of life if compared with scientific advances seen in developed countries. Also modest is the exposure of Romanian research findings, part of the blame for this going to the scientific level of local specialist publications.

Romanian veterinary research findings also lag behind internationally due to poor financing resources. Scientific research demands significant fund allotments. However, it is not a governmental luxury item. It is a realistic necessity because this field is one of the engines of social development based on knowledge. Therefore, research activities should qualify at least for reasonable financial provision.

Revamping veterinary research in Romania

The conferences organized by the General Association of Romanian Veterinarians (GARV) have concluded that veterinary medicine research should be expanded with methods able to:

- Identify the strategic goals of Romania's veterinary research by consulting experts from research accredited entities, under the supervision of the National Veterinary and Food Health Authority (NFVHA) (via its Scientific Council);
- Amend the current legislation by empowering NFVHA to launch and finance research themes of strategic importance for Romania's veterinary medicine (NFVHA should be allocated state funds for these activities);
- Motivate NFVHA to inform all the other state-run bodies handling research-related national strategies (the National Authority for Scientific Research and Innovation, the National Agency for Agricultural Research Management and Development) about its ve-

terinary research strategic goals, so as not to leave out our field of activity, as it has happened before;

- Allow teams with wide knowledge and expertise to participate in grant competitions launched by NFVHA;

- Increase veterinary research-related funds by seeking multiple public and private sources, including a more determined accession of national grants;

- Develop facilities on the premises of research entities in order to make research an attractive job or

even a *professional life goal* for youths with a vocation for this field;

- Reactivate bioethics committees in all research entities to make sure professional and ethical standards are observed to the letter;

- To promote and finance the Romanian Veterinary Medicine Journal (the profession's traditional publication), so that Romanian veterinary research findings may be turned to good account and given due international exposure.