

# Doctor's commitment to research work

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## 1 Introduction

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Students' reasons for selecting medicine are different. The desire to help people remains the main motive, while the wish for social standing and career is not as expressed (1). Priorities often shift during medical school, with the students realizing early on that science is also important for their future profession. Key competencies that every doctor must have also include a competency from the domain of science – understanding and applying science-based medicine (2). This competency must be reflected in the curricula of medical schools.

## 2 Science and medicine

In day-to-day doctor's work, science and clinical work are strongly linked in several ways. Science is important for the work of every clinical doctor, because it is the main tool of their profession. Commitment to science and practicing within the framework of science-based medicine is one of the essential elements of medical professionalism, which is the foundation of the medicine's reputation. Doctors must comply with the guidelines in their day-to-day work, and follow the development in their field. Failure to observe scientific facts leads to quackery and harms the patients. Disregarding science in treating patients is consequently unprofessional and un-

ethical. It is however not easy to consistently follow the science, with continuous scientific development making it hard to always stay on top of the latest findings. When adhering to these principles, we quickly realize that medicine has its limits. We soon become aware that we are not omnipotent, even if we want to help everyone and every time.

The partnership between science and medical practice is also reflected in the quality of healthcare and the safety of patients. This is a concept that took hold in the second half of the 20th century, and is based on systematically monitoring the work and correcting errors once they are found. Quality assurance and strict and fair actions help improve the quality of healthcare and patient safety. This methodology applies a number of scientific tools, especially statistical. It also requires understanding certain scientific methods; however, involvement in this process is not yet science.

The third realm is the realm of true medical science. Science means discovering new truths. If a doctor chooses this path, they pick a career that starts already during medical school and has its right place in the curriculum. Medical schools have certain mandatory courses at the undergraduate level. Selective courses in the curriculum also offer numerous possibilities for research, giving students the

opportunity to work on their research papers. Some schools require students to write research papers also as a part of the mandatory curriculum. The situation is similar at the post-graduate level, where certain specialty training programs include specialist research papers writing. Nevertheless, postgraduate doctoral studies remain the most important part of this career, with strong interest among doctors. The state with different incentives and its young researchers program also formally supports the careers of doctors–researchers.

### 3 Problems

There are quite a few problems in linking medical science and practice. We live in the age of anti-intellectualism, when people are incapable of assessing the level of their ignorance and only accept what they can understand and what they already agree with. Only one third of people believe scientific facts, and people do not understand how important science is for the development of the entire humanity, which results in scientists losing their social standing compared to the past.

Misunderstanding science is another issue, with some people not discerning between science and basic research. Clinical and public health research is frequently undervalued. Some do not view clinical medicine as real science, but as the application of science in practice.

The status and reputation of clinical research is frequently linked with the system of evaluating scientific and professional achievements. These are mostly evaluated based on the number of scientific papers published in journals with a high impact factor. Clinical sciences and fields are often in a disadvantaged position compared to pre-clinical or basic medical sciences.

The economic implications for every doctor are also hard to disregard. Doctors combining clinical and research work are facing double workload when pursuing their research goals. This presents a special problem in relation to grants, which often come with a time restriction. Balancing a junior researcher career and specialty training is difficult and often impossible. The fact that the pay of young specialist pursuing an academic career is significantly lower than the pay of their peers pursuing a professional path is also relevant. The possibility to hold two jobs and be cumulatively employed does not resolve this issue entirely.

### 4 Conclusion

Advanced clinical research cannot be done without the collaboration between different researchers. For long, research has no longer been the domain of individuals, but institutions. Academic institutions can hardly work without the involvement of doctors from clinical practice, while clinical professions cannot develop without partnering with science, and can lose their reputation as a result. Translational medicine – the application of basic science findings to medical practice – is one of the possible solutions for linking science and clinical medicine. This requires collaboration between pre-clinical and clinical researchers, which benefits both.

Doctors are not (just) scientists, but above all users applying scientific information in the process of treating patients (3). Commitment to science is the foundation of the doctor's mission, and of the profession's reputation, so every doctor should be involved in the research process. Medical research must be sufficiently supported at all levels. Collaboration between science and

practice is essential, so medical profession must get involved in solving the issues. Shifting the responsibility between stakeholders will not bring a solution.

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