

## Money And Research Revolution In The Biomedical Industry: Is It A Real Race?

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### Abstract

Medicine is a dynamic science and discipline, which arise from the human need to face the suffering, pain and give hopes for better life. Since its inception, medicine has entered a career development that has brought great advances in science. Medicine has become one of the most promising businesses in the economic field, and up today, and it is considered one of the greatest science futures with wide range of prospects.

**Keywords:** Management, Funding, Resources, Biomedical Research, Scientist.

Medicine is a dynamic science and discipline, which arise from the human need to face the suffering, pain and give hopes for better life. Since its inception, medicine has entered a career development that has brought great advances in science. Part of this momentum observed in medicine is defined as its reason for being, or rather, its primary goal, maintaining the health status in different populations<sup>1</sup>. This simple statement but becomes an object of great complexity which has received attention by many physicians and researchers from ancient times to the present, and in the tenth century, Ibn Hazm, a father of modern medicine enunciated the truth in this science was going to be impossible, since its dynamism is always present and the truth became a clear misrepresentation or significantly modified in the future<sup>2</sup>.

The goal of keeping adequate health status and prevent diseases has kept biomedical research in an alarming race in which the speedometer registering increases day by day. Today medical science is one of the most important sources of scientific innovation around the world; hundreds of manuscripts on health issues are published every day in multiple languages, in addition to numerous books and other non-official publications<sup>2-3</sup>. The increase in the medical literature during the last decade, led to think that the development of medicine has become a breakneck ratio, both the magnitude of the information obtained and its complexity.

However, the real reason for this phenomenon in biomedical sciences should be as a result of the new funding sources available for biomedical research either from the biomedical industry and government agencies. Each year new sources of money are offered to scientists to encourage innovation and the development of new ideas; and the resources existing to perform this goal increase. The OECD (Organization for Economic Co-operation and Development) suggests that countries spend about 500 billion dollars a year on research in biomedical

sciences, including private laboratories and research institutes<sup>4</sup>. Medicine has become one of the most promising businesses in the economic field, and up today, and it is considered one of the greatest science future with wide range of prospects<sup>5</sup>.

Despite this encouraging situation, the concerning of development of modern medicine could be measured as a fundamental problem: the doctors and other scientists in charge of biomedical innovation are not trained in the administrative field. The above problem is clearly seen in different situation in the current medical and research practice, weak reflected on wasteful resource allocation processes<sup>6</sup>.

Each organization facilitating biomedical research resources requires that its resources are managed and used in an appropriate manner. Institutions demand to distribute funding for various interests not only in biomedical sciences. On the other hand, institutions have to verify the novelty and the ethical viability of the proposals, with the main idea of support ethical-approved studies, avoiding catastrophes in non-well-designed trials. Nowadays, as a result of better "quality control processes", grant submissions involve a great number of administrative steps in order to be ready to submit any proposal. In this verification process, no only questions have to be addressed in term of sciences; a lot of administrative issues have to be explained in detail, including budget utilization and personnel management<sup>1, 4, 7</sup>.

Academics and scientists in universities are trained mostly in the technical aspects of their daily work, for this reason the horizon shows that the physician (M.D.) receives their training focus for the clinical management of patients, a doctor of science (Ph.D.) receive their training in the handling the samples to obtain the best results in the tests planned. In both cases, scientists are plainly educated out of the business and administrative field, leading important limitations with resources (personnel and funding) management<sup>3, 5</sup>.

Nowadays, the easiest application to obtain resources requires the approval of at least 5 different offices responsible for reviewing ethical, financial, legal, logistical, and scientific issues. Now back to the main problem in this discussion, the fact that medical researchers are not trained as integrated researchers (sciences and business), we are in the position to deduct that this condition may generate a bottleneck, specifically in this time where biomedical research are gaining a lot of power and interest in the industry<sup>8</sup>.

A potential alternative for this dilemma is to offer manager and administration training to researchers in order to be able to efficiently manage the resources requested. Masters degree programs are now available in health sciences management and administration, gaining popularity in the last five years. Researchers are more committed to show better profiles in their grant applications. Modern scientists must be people with a proven knowledge on costs and productivity that allows performing biomedical research with scientific quality combined with attractive financial management in terms of production<sup>2, 5, 8</sup>.

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