OPINION

RESEARCH IN THE DEVELOPMENT OF MEDICAL SCIENCE AND TECHNOLOGY

Most of medical scientists work in research and development. They conduct human diseases in order to improve human health and some of them conduct basic research to advance knowledge of living organisms, including worms, viruses, bacteria, protozoa and other infectious agents. They also perform in clinical investigation, technical writing, drug application review, patient examination, or related activities.

Past research has resulted in the development of vaccines, medicines, and treatments for controlling many diseases. Basic medical research continues to provide the building blocks necessary to develop solutions to human health problems. The medical scientist study biological systems to understand the causes of disease and other health problems and to develop treatments and prevention of diseases. Medical scientists who are also physicians can administer drugs to patients in clinical trials, monitor their reactions, and observe the results. If necessary, they adjust the dosage levels to reduce negative side effects or to try to induce even better results.

In addition to developing treatments for health problems, medical scientist attempt to discover ways to prevent health problems, such as affirming the link between air Pollution and lung cancer, or between alcoholism and liver disease.

Many medical scientists do their research independently in private industry, universities, government laboratories and nonprofit medical research organizations. They typically submit grant proposals to obtain funding for their projects. Colleges and universities, private industries, and Government agencies, contribute to the support of scientist whose research proposals are determined to be financially feasible and have the potential to advance new ideas or processes.

For most prospective medical scientist, a PhD degree in a biological science is the minimum education required, because the work of medical scientist is almost research oriented. A PhD degree qualifies one to do research on basic life processes or on particular medical problems or diseases, and to analyze and interpret the results of experiments on patients.

Medical scientists who work in applied research or product development use knowledge provided by basic research to develop new drugs and medical treatment. They should be able to work independently or as part of teams, interacting with engineers, scientist of other disciplines, and technicians and be able to communicate clearly and concisely, both orally and in writing.

Expected expansion in research related to health issues such as AIDS, cancer, malaria and dengue hemorrhagic disease also should result in employment growth Although medical scientist greatly contributed to developing many vaccines and antibiotics, more medical research will be required to better understand these and other epidemics and to improve human health.

An advanced biomedical technology research supports multidisciplinary, multi-institutional projects that address high-risk medical technology problems. The research projects in advanced biomedical technology truly integrate the amazing progress of' physics, chemistry, engineering, mathematics, and genome science. Developing gene technology, which represents the future of biological technology, is another important task for the future of the medical science and technology.

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