Pharmacology and Medical Treatment

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Developing new drugs for cancer and or any other medical purpose is a tedious, complex, expensive process. The process in developing new drugs involves numerous stages of trial and error. According to Mahajan and Gupta (2010) on average it can cost anywhere from US$ 802million to US$ 1billion dollars to successfully develop and market new drugs and, that process can take up to 12years with on average of only 8% of them ever hitting the market. From the beginning of civilization, people have been concerned regarding the quality and safety of medicines, which I do not fault anyone because, some medicines just do not work out to be very effected and good for the human body. My purpose of this white paper is to inform you and outline the various steps and procedures that goes into developing these new drugs for cancer, the economic issues people with face today, the special needs being served and the benefits of these new drugs and methods of how they are being developed, and finally based on my research the end result once these newly developed drugs reach the consumers.

The steps involved in developing new drugs for cancer patients are very complex. According to a fact sheet released by the California Biomedical Research Association there are several steps taken when developing a new drug. The first step involved is the preclinical research, in which scientist and researchers determine what germs, viruses, or bacteria causes a specific disease. Once this has been accomplished, both the scientist and the researchers begin to work on breaking down the different components that create the disease to find out what abnormalities are taking place within the body.

After that has been determined they then come up with a drug that they believe that will treat this abnormalities by conducting experiments in test tubes where they will add different

compounds to the enzymes, or cell cultures to find out what compounds added will result in some type of chemical effect to the disease. The next step is applying for an Investigational New Drug Application (IND). If the Food and Drug Administration (FDA) approves the IND within thirty days, the IND becomes affective giving pharmaceutical companies the green light to start testing the potential new drugs on humans. Once steps one-four have been accomplished we move to the fifth step which is the clinical trials. Here there are three phases that must take place and be successful.

Once the drug has been approved then the drug becomes available for physicians to prescribe. This is not the end of the research and development stages, there is also a final stage called phase IV and is known as the 'post market surveillance stage' it is in place to ensure the drug continues to have positive effects on its patients and if anything negative occurs then an immediate investigation will take place and then drug will be taken off the market.

Breaking the stages downs allows you to understand the full potential risk involved and why continuous research and developments in required to in sure that one drug is successful and becomes available to the pharmaceutical market, making up for all the previous cost incurred, and future one's to come.

Hence, why the price of these drugs are costly and patents are in place to ensure generic company do not take the formula and create a cheaper version of the same drug. Even though the risk in developing a new drug into the pharmaceutical market the rewards are even greater when they have been achieved.

References

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