

**2018 PSBR High School Essay Contest**  
***Grand Essayist***

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One aspect of my life that I certainly take for granted is the access that I have to modern medicine. In today's world, receiving quick and efficient treatments or vaccines for health conditions that were once extremely threatening is commonplace. This incredible progress can be greatly attributed to biomedical research and the results of animal testing. For instance, at the moment I am almost one hundred percent unlikely to contract smallpox, a disease that took the lives of about 400,000 people per year in the 1700s ("Animal Testing and Research Achievements"). Without the use of cows, the historical biomedical breakthrough of the smallpox vaccine that eventually led to its eradication would never have been achieved, and I could still be at risk of the disease today. This is just one piece of evidence that proves animal research has contributed enormously to the generally healthy, lengthy, and considerably more risk-free life that I am lucky enough to lead in the present. The advances made by biomedical research are also important to everyone in my life and everyone on the planet. Without modern medicine, the world would be a starkly different and deadlier place.

A specific breakthrough that has affected my family personally is that of asthma medication. My little sister unfortunately suffers from chronic asthma, which is the narrowing of the airways to the lungs. Attacks can be brought on by about 200 irritants or allergens including pet dander or pollen, and have the potential to be severe ("Asthma"). However, when my sister's asthma acts up she and her loved ones often do not have to worry much. She is able to quickly treat the effects of her asthma with prescribed drugs.

There are many different drugs that can be used to treat asthma symptoms, and the discovery of nearly all of these treatments can be traced back to animal research. In the 1930s, pharmacologist Otto Loewi discovered the existence of chemical nerve transmitters while experimenting with frogs. This knowledge was later applied to asthma research in the 1960s, leading to the development of "reliever" asthma drugs known as bronchodilators. It was found through later animal research that these original bronchodilators were not effective enough in relieving asthma symptoms. Better and more efficient drugs were achieved through further animal testing, especially through the use of guinea pigs. Scientists were able to find new and successful treatments for a condition that affects an estimated 330 million people worldwide because of biomedical animal research ("Asthma").

I care about my younger sister very much, and I truly appreciate all that biomedical research has done for her wellbeing through asthma medication. It is very possible that her asthma attacks would be much more severe and concerning without these medicinal advances. While it is not uncommon for individuals to oppose the concept of using animals for biomedical research, it cannot be denied that this has had a large and positive impact on how society

functions today. My sister does not have to live in fear of the next time her asthma symptoms flare up because of biomedical animal testing, and most people share in this lessened need for health-related distress to some degree. Whether an individual catches a cold or possesses a mental health issue like bipolar disorder, the treatment he or she receives can likely be linked to animal research in the biomedical field (“General Overview”).

It is my belief that everyone who is alive today is extremely fortunate to exist in a period that is the product of such great medicinal progress. It is easy to overlook the advantages provided to us by biomedical research because we simply do not have to be as fearful of many illnesses and conditions. It is important to keep in perspective how much more dangerous and threatening the world was to human society before the advances made possible by biomedical research and the animals that contributed. As biomedical research continues to make progress, it seems logical to assume that our lives will improve as well.

#### Works Cited

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