In the current age of terrorism, and in light of the exponential advancements in biological technology, the threat of bioterrorism links together the objectives of both defense and public authorities. In the name of protecting homeland security, the United States defense has categorized smallpox as a threat against which the American population ought to be prepared. Although public health officials have successfully eradicated smallpox worldwide by 1980, considering the threat of smallpox as a biological weapon has reopened discussion about vaccinating the American population as a national effort to deter or control smallpox if disseminated in the future. However, pre-event vaccination for a virus that no longer exists in the natural environment proves to be problematic. The following thesis argues that there are added ethical concerns and policy implications in preparing the US populations against smallpox as a biological weapon versus a naturally occurring infectious disease. In other words, the act of pre-emptive vaccination, catalyzed by the shift in the nature of smallpox threat, is ethically problematic and results in policy challenges. In making this claim, this thesis aims to do the following:

1. Examine the inherent differences between approaching smallpox as a biological weapon versus a naturally occurring infectious disease.
2. Show how these differences engage ethical underpinnings and policy implications, which influence the effectiveness of smallpox preparedness in the 21st century.
3. Use the Bush Administrations 2003 National Smallpox Vaccination Program as a model to show how the discussed ethical underpinnings and policy implications can affect smallpox preparedness interventions, such as vaccination efforts, and what we can learn from the outcomes of this program.

The background and supporting information used in the making of these claims were researched via various interdisciplinary journals, texts, and government documents.

The potential consequences of an outbreak of smallpox warrant the need to take measures. Exposure of smallpox to a vulnerable population has historically resulted in a 30% mortality rate, and survivors were left physically deformed or even blind due to the intense pockmarks caused by the virus. During the smallpox eradication campaign, the risk of infection of smallpox as a naturally occurring disease
was understood. However, because the current threat of a smallpox outbreak cannot be measured, weighing the ethical principles of personal autonomy, beneficence, nonmaleficence, and justice is difficult; therefore, the vaccination of the American population for smallpox in light of the current threat cannot be readily justified. This is true because the smallpox vaccine involves risky side effects from vaccination itself. Furthermore, preparing for the possible future dissemination of smallpox involves both defense and public health authorities, and on both national and state levels, which creates policy challenges in streamlining an effective smallpox preparedness effort.

Historical links between terrorism and the smallpox virus give reason to believe that smallpox can be a potential bioterrorist agent in the future. The difficulty in justifying a mass smallpox vaccination campaign, and the challenges of designing policy for such a pre-event vaccination strategy, proved to be influential in the failure of the Bush Administration’s 2003 National Smallpox Vaccination Program. The National Smallpox Vaccination Program was the first large-scale national bio-defense program, which hoped to vaccinated the American population to build smallpox immunity against a future bioterrorist event. However, the goal number of vaccinees failed to be reached even a year after the implementation of the program. The vaccination program appears to have faded from national priority, as no reports indicated any attempts or plan to continue the pre-event vaccination campaign.

When considering the ethical concerns and policy implications of preparing against an unknown threat of smallpox, a pre-event vaccination strategy has shown to fail in the case of the National Smallpox Vaccination Program. If assuming that taking pre-cautions against smallpox as a bioterrorist agent is still a national priority, then preparations ought to be aware of the sociopolitical climate. The American population is greatly aware of individual rights, which gives great weight to the principle of personal autonomy and creates a skeptical sentiment of public health initiatives in the name of defense. Therefore, when considering smallpox preparedness, a shift to designing an efficient post-event response to controlling smallpox may prove to more successful than implementing mass pre-event smallpox vaccination. This holds true until the threat of smallpox is truly measurable or imminent, and/or a completely safe smallpox vaccine is readily available. The change in these circumstances would affect the way in which the ethical principles are weighed.