

The Ethical Use of Unethical Human Research

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Abstract

The experiments conducted by Nazi physicians and researchers on prisoners in concentration camps during World War II are among the most inhumane and atrocious ever conducted. Prisoners were subjected to harsh conditions and trials to test the limits the human body could reach, or often to simply inflict as much pain as possible. However, there is evidence that the meticulous records from specific experiments kept by the Nazis could produce beneficial results if repurposed today. To date, none of the data collected from these experiments have been successfully used. The resounding belief is that the research is tainted by the unethical means used to collect the data, but should this be the case? Perhaps the ends justify the means and the data can be used as long as the benefits from the research outweigh the harms caused by the methods. It is likely that most of the data would produce little to no beneficial outcome, but for that data that can result in significant lives saved, researchers should reconsider repurposing it for a more positive end goal.



Herta Oberhauser, physician at the Ravenbrueck concentration camp, sentenced at the Doctors' Trial in Nuremberg, August 20, 1947.

Perhaps the most intensely debated philosophical and ethical question with regards to medicoscientific research is “do the ends justify the means?” While tackling this particular form of the question shall be left to more advanced philosophical discussion, it may be rephrased into a more approachable version: can research data obtained through unethical methods be used for ethical and beneficial results? This question becomes critical when discussing the validity of unethical human experimentation, specifically experiments conducted by Nazi physicians during World War II. The Nazis performed horrific acts against prisoners in concentration camps and conducted experiments on unwilling subjects, inducing high levels of pain with few scientific goals. Having said that, would it not be in our best interests to use any relevant data from these experiments if it could

lead to new medical and scientific discoveries? This is an extremely difficult question to answer. It is hard to determine at what point potentially beneficial research becomes tainted by the unethical methods used on experimental subjects. Is the answer definitely yes (that the ends justify the means) or definitely no (the methods determine the ethicality of the data)? Perhaps it depends on whether the potential benefits outweigh the injustices?

When experimenting with human subjects became popular in the early 20th century, it was not at first accompanied by protest and debate from the public. Though human subjects came to be known as the “animal of necessity,” the public opinion remained optimistic about human experimentation as long as scientific and medical achievements continued to be garnered from its use (Greenwald et al., 1982). With vaccines, antibiotics and other therapies vanquishing many infectious diseases, it is not surprising that the public supported human research. Though research continues to successfully expand our scientific knowledge and medical capabilities, the actions of Nazi physicians during WWII put ethical considerations of human research into the forefront of public concern.

There appear to be three key issues when determining the ethicality of human experimentation. The first is the boundary problem (Greenwald et al., 1982). At what point does the practice of medicine leave the realm of a “helping profession” and enter the realm of biomedical and behavioral research? The answer is difficult, if not impossible to discern. The boundary between experimenting for the sake of generating new knowledge, and for the sake of helping a given individual exists, but it is often blurred when you account for the interests of the patient and the doctor. The second issue is the risk-benefit ratio (Greenwald et. al., 1982): weighing these values and costs, and determining if the research is ethical by this standard. The third and arguably most important

issue is the consent doctrine (Greenwald et al., 1982). It is most simply the idea that a fully competent and informed subject must willingly accept to participate in experimental trials.

Consequently, an ethical experiment must maintain the following criteria: 1) all subjects must willfully give informed consent, 2) the researcher must only operate within the scope of his understanding, 3) the goals of the experiment must be of

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significant value to medico-scientific knowledge, 4) all harm to the subject must be minimized, and 5) there exist no other means of obtaining the results (Trials of War Criminals, 1949). However, it is not any of these rules that proves to be the most challenging dilemma of rationalizing human experimentation. Rather, it is accounting for public perception and the public’s acceptance of human research. Vaccine experimentation serves as a good example of this dilemma.

Vaccines are without question a life-saving development. By understanding the source of a disease, scientists developed the ability to preemptively prepare the body for contact with the disease. The development of the polio vaccine in the 1950s, the eradication of smallpox in the 1960s, and the development of the MMR vaccine in the 1960s and 1970s are just a few examples of how vaccines have saved millions of lives. However, before the benefits were clearly visible, vaccine testing was a much more controversial subject. People argued that patient consent was not always obtained, and that physicians had begun to see the patient not as an individual, but as a means by which they could solve the problems of the masses (Bonah, 2000), a direct contradiction of the values set forth by the Hippocratic Oath. Often it was not even the development of the vaccine that caused debate, but rather its use. People feared that the vaccine was not foolproof, that it would either fail to inoculate or even cause the infection it sought to prevent.

Nazi Human Experimentation

In stark contrast to vaccine research, which on the whole maintained ethical standards of research and garnered popular support, the experiments conducted by Nazi physicians during WWII were as unethical, immoral and publicly vilified as experimentation can be. The experiments were politically driven, and based on irrational fears and beliefs of the ruling power. The experiments lacked any type of consent, and often the expected result was death of the subject. Sterile environments were not created, risk-benefit analyses were not conducted, and the experiments often lacked a solid, scientifically based hypothesis. Simply, the Nazis conducted the experiments to primarily see how much pain and suffering they could inflict on their subjects before death, and considered military or behavioral applications of the studies to be secondary goals.

According to Robert Proctor, an American historian and professor at Stanford University, science is either “inherently democratic or apolitical” (Annas & Grodin, 1992). Either it responds to political ideologies, or regards political infiltration as a destruction of science. During WWII, the Nazi physicians embraced the former definition, and shaped the German medical program to emphasize and support the skewed political beliefs of the Nazi party. The Nazi party believed in racial hygiene, which was used as a means of discriminating against people considered inferior, and promoting its own nationalist movement. The Nazi party built its political ideologies around the fact that the various inferiors of the world were multiplying more rapidly than the gifted elements of society (Annas & Grodin, 1992). The Nazis shaped their views as a “struggle for existence,” maintaining that the only way to ensure the survival and purity

Romani (Gypsy) victims of Nazi medical experiments to make seawater potable. Dachau concentration camp, Germany, 1944. (both images)



of the rich Aryan people was to control the growth of these “inferior” people. Nazi physicians embraced this ideal. They supported Nationalist Socialism, re-

defined the meaning of sound biology and medicine, and played an active role in the initiation, administration and execution of the Nazi racial programs (Annas & Grodin, 1992).

Regarding the specific Nazi experiments within the concentration camps and across Germany, the constant motif is lack of consent. The subjects neither gave their informed consent, nor did the physicians give them the opportunity to do so. Subjects were forced to face excruciating tests on their way to a painful death. The physicians had no regard for the ethical and moral concerns of their subjects and simply met the agenda set forth by higher ranked medical officials and the Nazi party.

The Nuremberg Code of 1947, one of the few positive outcomes of the Nazi medical program, is often considered the first document to set out ethical regulations of human experimentation based on informed consent. It consists of ten necessary criteria for ethical experimentation. To highlight a few, the

subject must give informed consent, there must be a concrete scientific basis for the experiment, and the experiment should yield positive results that cannot be obtained any other way (Nuremberg, 1947).

One may point out, as the Nazis did, that since the Nuremberg Code was not established until after the war, no laws explicitly governed medical research on human beings, and so their actions could not be considered “illegal” (Vollmann, 1996). Such an argument fails to recognize that 1) the nature of the actions need not be illegal to be immoral or unethical, and 2) there in fact existed in Germany stipulations for human medico-scientific research.

First, legality and ethicality often clash, but a reasonable person would have assessed that the Nazi experimental conduct was well beyond the boundary of acceptable human experimentation standards. Second, in 1931, the Reich minister of the interior issued guidelines for new therapy and human research. Like the Nuremberg Code, the guidelines mandated explicitly informed consent, a clear structure of physician responsibility and administration for each clinical trial, and a commitment to respecting the dignity of the research subject (Vollmann, 1996). Thus, the Nazi experiments were neither ethical nor legal under German law. But while the experiments themselves were definitively unethical, the question remains whether current researchers should be free to use the results of these experiments for beneficial means.

There are several key dilemmas when it comes to using medical data from Nazi experiments: the scientific validity of the experiments, the medical competence of the experimenters, and the connection of this data to modern problems (Rozenberg, 2003). What must be established, however, is the degree of unethicity of the methods. The Nazi experiments forced people to become subjects in dangerous studies against their will. Nearly all the subjects endured pain, mutilation and suffering, and the experiments were often deliberately designed to terminate in death of the subject (Rozenberg, 2003). Can useable results even be expected to come from these experiments?

The Nazis conducted three types of experiments: medico-military research, miscellaneous research, and racially motivated research. The first included subjecting prisoners to freezing conditions, high-altitude and low pressure chambers, sea water consumption (Rozenberg, 2003), and a multitude of other experiments to record the time it took for the subject to die. The second were designed solely to inflict pain on the subject, with no apparent scientific background. They would poison subjects, and recreate wartime wounds and watch as the subjects bled to death. The third were conducted to try to understand the racial differences that made the prisoners “inferior”. These included artificial insemination experiments, sterilization experiments, and twin studies (Rozenberg, 2003).

While a large portion of these experiments clearly served no scientific purpose, it cannot be ignored that parts of the medico-military experiments, in particular, may in fact be useful if manipulated the right way. This leads to the critical question of whether it is time to unlock the ethical padlock that has contained this data and – while still maintaining respect for those who suffered to produce the data – repurpose the unethical research for ethical purposes.

The Case For Using the Data

The argument for using the data is largely based on utility. Since the Nuremberg trials, the data obtained from the Nazi experiments has been available to scientists, and there is general consensus that at least some of the research may be useful if manipulated the right way. Perhaps the most controversial study with regards to requests to use the data has been Dr. Sigmund Rascher’s hypothermia and altitude experiments at Dachau. Though mentioned briefly above, more detail about this experiment follows, to uncover any potential beneficial use of the data.

Rascher’s methods were brutal and inhumane to say the least. To test the human body’s resistance to cold, he would immerse prisoners (at least 300 of them) in ice baths or force them to stay outside naked

in the cold Polish winter, where temperatures routinely dropped below freezing (Bogod, 2004). Most prisoners were left in these conditions until they died, upon which readings were taken on body temperature changes, how quickly body parts froze, and ultimately how fast the subjects died. The lucky ones were plucked from the cold in near death or unconscious states and were used to test various methods of rewarming and resuscitation (Bogod, 2004). Rascher's other main study, also funded by the German Air Force, evaluated the physiological response to low pressure, to inform pilots about survival techniques following cockpit ejection. Prisoners were put in decompression chambers for extended periods of time, after which their brains were dissected to uncover air bubbles forming in cerebral blood vessels (Bogod, 2004).

comprehensive, albeit inhumane, data indicated rapid active rewarming as the most effective technique, and had the potential to significantly improve hypothermia survival rates (Cohen, 1990). Similarly, Dr. John Hayward of Victoria University in Vancouver based his research on cold water survival suits on data from Rascher's experiments. He hoped to use the data on changes in core body temperature to inform rescue teams about the chances of survival for those in capsized boat accidents (Cohen, 1990). Both Pozos and Hayward cited that since the potential outcomes were very positive, and that such meticulous data could not be obtained any other way, this justified their use of Rascher's research.

Though much of the data collected from Nazi experiments have yet to be thoroughly analyzed, the precedent set by Pozos and Hayward shows that there



A victim of a Nazi medical experiment is immersed in icy water at the Dachau concentration camp. SS doctor Sigmund Rascher oversees the experiment. Germany, 1942.

— *Bildarchiv Preussischer Kulturbesitz*

While there is no doubt that the means used to obtain the data were unethical, there is also little doubt that the Nazis took meticulous notes throughout the experiments. Researchers have previously tried to utilize the data to inform on ethically sound studies on hypothermia prevention and treatment. Dr. Robert Pozos of the University of Minnesota was denied publication in the NEJM after he used Rascher's data on rewarming techniques to fill in critical gaps in his research; notably, few studies had looked at a human model for rewarming (Cohen, 1990). Pozos hoped to show that contrary to the widely practiced slow passive rewarming techniques, Rascher's more

may be an appropriate way to use the data for beneficial purposes. Researchers would have to argue three crucial facts. First, they must reasonably show that the data collected by the Nazi doctors is in fact valid and consistent with current knowledge. Second, there must be no other means of obtaining the data (e.g. human experimentation would be inhumane). Finally, and most importantly, if scientists are going to use this data, there must be a large degree of respect for persons. It must be clearly stated in published material that data came from Nazi experiments, and researchers must make sure to acknowledge the suffering of those people who died for this data to be obtained. In

this way, the suffering can take on a purpose directly contrary to the Nazi program, and honor the sacrifices these victims made, while serving as a reminder of the atrocities.

The Case Against Using the Data

Those who argue against the use of data approach the dilemma from two angles, 1) questioning the validity of the experiments and the competency of the Nazi doctors, and 2) suggesting that using the data legitimizes it, and disrespects the victims of these experiments.

Though some will claim that the tainted nature of the data stems from the circumstances surrounding their collection, there is undoubtedly sufficient evidence to argue that both the science employed by the Nazis and the qualifications of the “doctors” were questionable at best. Ethical guidelines for human research help to protect subjects, but also ensure that accurate and translatable results can be collected from the experiments. Ethicality is thus intrinsically tied to scientific validity, and likewise unethical research leads to “bad science,” (Cohen, 1990) which includes a non-replicable subject pool and experimental design, skewed background science, and inconsistencies in reported results. One of the requirements for establishing a conclusion from an association are replicating results, which has not and cannot be done with the Nazi experiments (Cohen, 1990).

Aside from the unethical nature of the protocols, the conditions of the subjects can in no way be replicated, and it is likely that results obtained from these subjects would be significantly different from data collected from healthy subjects (Freedman, 1992). Additionally, the “science” purported by the Nazis was heavily politicized and racialized in nature, employing a social eugenics model rather than a scientifically valid model (Cohen, 1990). There is also significant evidence that under pressure from the government, the Nazi doctors misreported information to make the data seem more appealing to the Nazi powers. These discrepancies were prevalent

across many different experiments and make it quite hard to identify the accurate information (Cohen, 1990). Finally, although considered leading members of their field by the Nazi powers, the doctors who conducted these experiments were often undereducated and influenced by political ideology (Cohen, 1990). Working within a system of politicized and often inaccurate science calls into question the validity of the qualifications of the Nazi doctors and by association, the validity of their experiments as well.

Even if people accept that some of the data may be useful if applied the right way, many would claim that the data is still tainted – not by “bad science,” but rather by disrespect for persons and poor precedent. In other words, using or publishing any of this data is disrespectful to victims who suffered during the experiments. People who take this point of view argue that publishing the data leads to legitimization. Regardless of the intention, having this data appear in respected journals establishes some degree of acceptance. In addition, this legitimization would set a very poor precedent for current researchers who have toyed with the idea of using ethical shortcuts to obtain data (Freedman, 1992). Even if the intention was strictly positive, and even if it is explicitly mentioned in published material where the data came from and acknowledging the brutalities, it is difficult to control how people would perceive this data being cited. Consequently, it is respect for the victims and safeguards from current ethical abuses that support not using the data.

Conclusion

There is no doubt that the data collected from Nazi experiments is tainted in some way. It may be the result of inaccurate politicized science, unqualified doctors and poor experimental design. Or, it may simply be that the experiments were so cruel and devalued human life so extensively that the data is untouchable from an ethical standpoint. Either of these reasons may be sufficient to restrict the citation or publishing of data from Nazi experiments. If

it is best to respect the victims to the highest degree, set a good precedent for current researchers, and only publish definitively accurate science, then this restriction seems appropriate. However, such a decision on whether to allow publication should be made on a strict case-by-case basis. For a heavy majority of situations the restriction will likely be upheld. But in the rare instances where using the data could have a significant beneficial outcome, one that has the potential to save many lives, then publication may be indicated, as long the victims are sufficiently protected and appreciated, and the atrocities are adequately condemned. If done the right way, it may serve to reinforce the importance of ethical research, and give the victims' cruel death a new and meaningful value.

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