

Spring 2021

An Overview of Unethical Medical Practice in the United States and Their Implications

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Abstract:

Questionable and unethical medical experiments have existed and persisted since the creation of the field of medicine. In the 20th century, the United States was a nation that acted as though they were the moral police and ultimate judges on humanitarian crisis such as unethical medical experiments. In reality, the United States was performing and endorsing unethical medical practices, as well as creating and funding the entire pseudoscience of eugenics, at the same time they were condemning others for doing so. The subsequent “codes of ethics” that were created allowed for the continuation of unethical practices throughout the 20th century and still today. The remembrance and examination of the dark reality and history of unethical medical practice in the United States is of the utmost importance as scientific and medical advancements are continuing to progress, and are doing so at speeds faster than we are often able to react and examine the potential moral repercussions.

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Acknowledgements:

I would like to extend my sincerest gratitude to my thesis director Dr. Frey, and second reader, Dr. McClimmans, for guiding me through this process. I would also like to thank Nicole Chandonnet and Alexis Johnston for their constant support and encouragement this past year. And to my mother, the best editor I have ever had.

Introduction:

The horrific medical experiments conducted under the Nazi regime, are often viewed as unique to the time period and to the Germans. In reality, this is not the case; the influence of American eugenicists on Nazi scientists and physicians such as Josef Mengele, greatly contributed to the eugenic experiment that became the Holocaust- and continue to have affects throughout the 20th century, and still today. The development of the somewhat inadequate ethical guideline set forth after World War II in the Nuremberg Code, and the idea that these guidelines are not applicable and relevant to the US and our physicians has allowed for many more unethical experiments to occur, and has important implications for medical ethics moving forward as the scientific and medical fields rapidly advance.

After World War II, the United States and Great Britain were viewed as the moral grounding of the western world- and the United States has since taken its role as the “moral police” of the world very seriously. However, our own history is full of extremely questionable ethical decisions in regards to medical experimentation and research, including support of and contribution to the horrific policies that transformed into the Holocaust; and is a history that deserves to be examined and remembered as science continues to progress into the future- often faster than we are able to react to it- to properly ensure unethical horrors are not allowed to repeat themselves.

This thesis will argue that the United States acting as the moral police of the world is inappropriate given our own history with unethical experimentation, by giving a summary of the unethical case studies and histories that are often hidden within the United States itself. It will also argue that remembering and learning this history is crucial as scientific advancement

continues to progress, by providing more modern-day examples and analyzing how we often still- intentionally or not- make unethical decisions.

History of American Eugenics:

The Holocaust, and Nazi medicine in general, are viewed by many as the climax of the eugenics era, with such racially charged goals, and ideas of genetic bases for Nordic superiority. And although the Nazi regime was steeped in incredible eugenic principles, they were not the only, or even the first people to explore and support the eugenic theories. The term “eugenics” was first coined, not by a German, but by the British cousin of Charles Darwin, Francis Galton, in 1865 (Chelouche, Tessa, 2013). In the United States, at Spring Harbor in New York, Charles Davenport established the Station for Experimental Evolution to explore eugenics in 1904- decades before the Nazi regime rose to power. In 1924, an immigration act was passed and upheld throughout World War II, whose purpose was to keep “pure Nordic blood” in America, reinforcing the ideas of racial superiority (Ben-Gershom, 1990). In the supreme court case *Buck vs Bell*, the court ruled in favor of legal forced sterilization, claiming that “three generations of imbeciles is enough”, and by 1931, 28 states had forced sterilization laws on the books- largely targeting the rural whites in places such as West Virginia (Black, Edwin 2012d). In 1933- two years after the US Supreme Court’s declaration, Germany passed the Law for the Prevention of Genetically Diseased Offspring that allowed for forced sterilization of the mentally ill and the disabled, clearly displaying the influence our own policies had on theirs (Schaefer, 2004).

Eugenic principles and forced sterilization initially began to gain ground in the United States, as uneducated, rural, white Americans were removed from their homes by police departments, deemed feeble-minded, and forcibly subjected to sterilization in the hills of Virginia

(Black, Edwin, 2012d). Although Galton himself was a big proponent of regulating marriages based on blood lines and inherited traits, breeding higher class people together to create an even more elite social class (what would eventually become known as “positive eugenics”), the Americans quickly spiraled his ideals into negative eugenics after his death in 1911, forcing their principles of sterilization and removing “bad genes” from the gene pool, rather than focusing on amplifying the good ones (Black, Edwin, 2012b). The influx of immigrants to America in the early 1900s from eastern and southern Europe had Americans on edge, and primed to accept eugenic principles- even as said principles were being questioned for lack of evidence in Britain and by Galton himself (Black, Edwin, 2012a).

Intelligence tests began to be employed by the department of immigration, categorizing immigrants based on the eugenic idea of inherited intelligence. One of the most common tests given to the immigrants was developed by Henry Goddard, who altered a previously created intelligence test to fit his more eugenic ideas. The tests were not an accurate representation of intelligence, as questions were largely based on pop culture references that were only known to people of upper- middle class Whites, and were thus designed to reinforce eugenic principles of immigrants and lower-class people being less intelligent. Although the scientists who developed the tests eventually acknowledged the test’s inaccuracies, and that no racial bias for intelligence existed, no one paid attention to these quiet acknowledgements, and the damage was already done with the intelligence tests and their consequences raging through the US (Black, Edwin, 2012c).

Charles Davenport became the face of the American eugenic movement, and established the Biological Experiment Station at Cold Spring Harbor to investigate the “method of evolution,” as he described it. Although eugenics was gaining popularity among the elite

scientists in the US, the majority of the public had little knowledge of the theories, and little to no government funding existed. So, Davenport turned to private supporters to finance his campaign to create a superior race. He applied for support from the Carnegie Institution, stating in his proposal “the aims of this establishment would be the analytical and experimental study of... race change,” making his racist intentions perfectly clear. He provided documentation to the Carnegie Institution on how race policy needed scientific breeding data to back it up, and that he needed Carnegie funds to accelerate and direct human evolution. The Carnegie Institution eventually said yes, and the Carnegie Institution for Experimental Evolution at Cold Spring Harbor was formed (Black, Edwin, 2012a).

With the backing of major institutions such as Carnegie, eugenics began to gain ground in the academic communities. Davenport published a textbook detailing the danger of immigrants who had “bad blood” - largely warning against the immigration of Southern Europeans and Jews. By 1914, 44 universities offered eugenic coursework, and just ten years later in 1924, hundreds of schools offered courses in eugenics with some 20,000 students taking them each year. Even in high school, textbooks included the eugenic ideas of “fitter families,” encouraging students to marry those with good genes (Black, Edwin, 2012c).

The case of *Buck vs Bell* is a prime example of how deeply eugenics had embedded itself into the elites of American society. Carrie Bell lived in the Virginia Colony for the Feeble Minded, as she had performed poorly on an IQ exam and as such was deemed feeble-minded, and committed to the institution (Kevles, 2011). However, epilepsy and feeble-mindedness were often considered synonymous at this time in Virginia, and as such feeble-mindedness was often not an accurate diagnosis. In fact, Carrie’s school records indicated that she did well in school, and was only pulled out when her adopted family had her help the neighbors with their household chores,

in addition to their own. After being raped by her adopted family's cousin she gave birth to an illegitimate child, and debate arose over the decision to forcibly sterilize her afterwards (Black, Edwin, 2012f).

Carrie's mother had also performed poorly on an IQ exam, and was considered feeble-minded, and Carrie's illegitimate daughter was judged feeble-minded at the age of eight months, so the argument was made that feeble-mindedness had been inherited from mother to daughter (Kevles, 2011). However, the evidence was shaky at best, as a Red Cross worker was asked to find evidence that Carrie's daughter was also feeble-minded, and she wrote back that "I do not recall and am unable to find any mention in our files of having said that Carrie Buck's baby was mentally defective." They then asked a doctor and social worker to find evidence that the child was defective as "the constitutionality of the sterilization law depends" on it. The social worker could only say that she (the child) had "an odd look about her," and that was enough to have the child deemed defective (Black, Edwin, 2012f).

Under the Virginia Sterilization Act, passed in July of 1924, inmates of state institutions such as the one where Carrie lived could be forcibly sterilized if they were deemed "moral delinquents" (Antonios, Nathalie, 2011). This law employed the premise that the greater good of society was more important than individuals' private rights. Carrie was used as a test case to establish the legitimacy of the sterilization laws, and the case was taken all the way to the US Supreme Court, who ruled in favor of upholding the law, on the premise that feeble-mindedness was hereditary and any more children of Carrie's would be a burden to society. They stated "the principle that sustains compulsory vaccination is broad enough to cover cutting the Fallopian tubes..." a large stretch, but one that eugenics fully supported (Kevles, 2011). The precedent set by this court case allowed for any and all states to enact and revise their own sterilization laws

and eugenics had officially become endorsed by the highest power in the US (Black, Edwin, 2012f).

America's deep history of eugenics serves to exemplify how unqualified we were to act as moral police in other countries, and to impose our supposedly superior ethical guidelines on other nations. The same nation that would later act as judge and jury in the cases of ethical trials post World War II was steeped in an unethical history itself- and in fact- a history that contributed to the extreme eugenic policies that developed in Nazi Germany.

Nazi Eugenics:

The American eugenic principles and ideas were regularly praised by German Nazis, with Hitler himself celebrating our sterilization laws and immigration principles in *Mein Kampf* (Kevles, 2011). The Germans just put into effect the principles that the doctors and scientists in the United States were creating, and there was a perfect storm of reasons as to why the Eugenic policies were able to take such a strong hold in Germany, and snowball into one of the worst genocides of all time. First, the Germans held on to this idea of medicine and cutting-edge science as a way to revitalize and save their country after the decimation that occurred post World War I- and although they were the ones to implement these cutting-edge ideas, they were not the first or only ones to come up with them (Schaefer, 2004). Secondly, the racially charged prejudices against the Jews, and the history of pogroms in Europe, made choosing them as a scapegoat a natural and easy target.

The eugenic ideals of the Nazis are evident throughout all aspects of the Holocaust. The overarching theme being, of course, racial extermination with Hitler's "final solution," and the rise of the pure Nordic race. The eugenic principles allowed the Germans to view the Jewish

people as inferior, and as less than human. These views are evident in the perversion of medicine that occurred in the forced experimentation on non-consenting concentration camp prisoners, where medicine became a weapon for the Nazis as they took the eugenic principles to the extreme. In the musculoskeletal experiments conducted by Karl Gebhardt in the Ravensbrück concentration camp, non-consenting prisoners had scraps of dirt, glass, and cloth, placed into wounds in their legs along with bacterial strains to simulate battle wounds. The experiments aimed to test the effectiveness of sulfanilamide drugs on gas gangrene- a condition that killed 100,000 German soldiers. These experiments were done repeatedly, up to eight times on some prisoners, with no difference ever being observed in those treated with the sulfanilamide drugs and those without. However, prior research had indicated that sulfanilamide drugs were not effective in treating gas gangrene, and thus, the unnecessary experimentation done of the group of 60 female prisoners was just another way to assert the Nazis power over the “inferior” Jewish race. The results from these experiments were presented at the Third Medical Conference of the Consulting Physicians of the German Armed Forces in May of 1943, and although it was clear that the “participants” in the study were not consenting individuals, but rather concentration camp prisoners, no one in attendance raised any concerns or made any effort to halt the experiments. This lack of objection and complete acceptance by the academic world farther shows how deeply the eugenic principles ran in the Nazi medical circles (Bagatur, E, 2015).

Race science was pushed to further extremes in the twin experiments that were done by the infamous Dr. Joseph Mengele to observe differences between the twin children. Survivor Eva Moses Kor recounts her experience, remarking that one of the studies she and her twin sister endured aimed to see how much blood they could lose and survive, with blood draws occurring three times a week. Additionally, three times a week they were stripped naked, and had their

body parts documented- to observe any differences and to look for physiological evidence that would back the theory that Jews were the inferior race. They were injected with a still unknown drug that caused them both to be sick for weeks. If one twin would have died, the other would have been killed also, and their bodies compared with autopsies. Although both girls survived the war, Eva's twin sister's kidneys were permanently damaged from the unknown drug she was injected with, and she passed away, even after a kidney transplant from Eva. Again, these experiments had no medical value and were simply done as a weaponization of the medical practice (Kor, Eva, 1992).

The Nazi scientists were performing unnecessary, unethical experiments in the hopes to gain data to support their eugenic principles; their consciences permitted the conduction of such horrific experiments because they had been indoctrinated with the ideas of racial science and the superiority of their own race. Knowledge of racial theory was necessary for entrance into medical schools in Germany, and more than half of all German physicians were members of the Nazi party- more than any other profession (Craig, Anne, 2015). The intrinsic idea that the people in these concentration camps were less than human, an idea supported by eugenic principles and seen in numerous American studies, allowed for the horrific experiments enumerated above to occur, and for the German citizens and really the world, to turn a blind eye to it for so long. The American eugenic underpinnings of Nazi medicine reveal just how hypocritical our next step was going to be- acting as judge and jury of these Nazi scientists and physicians in the Nuremberg trials.

Post WWII Nuremberg Trial:

After the war, the Nuremberg trials addressed the Nazi experiments, attacking the idea of experimenting on nonconsenting prisoners on the basis of Hippocratic ethics. The panel of American judges however, did not choose to persecute the eugenic ideas that underlaid the Nazi medicine principles and practices, largely because in doing so, they would be attacking their own ideals as well. Twenty-three individuals were charged in the trials (Craig, Anne, 2015) which occurred after the International Military Tribunal tried high level Nazis for more general war crimes (Czech et al., 2018).

German psychiatrist and medical historian Werner Leibbrand began the trial and attacked the Nazi physicians for their unethical experimentations; claiming that they had fallen victim to a perversion of their duties under the Hippocratic Oath as physicians and had reduced their subjects to no more than “a series of biologic events,” not humans (Shuster, Evelyn, 1997).

In their rebuttal, the defense argued that the unethical experiments performed were done so under direct orders from the government, and were done “for the good of the state,” thus the suffering of a few individuals was justified. The Hippocratic principle and golden rule of “do no harm” was used as the major argument for rebuking this claim. The prosecutors argued that under no circumstances is the killing of a small number of individuals for the good of the whole permissible, and that the state cannot assume responsibility for individual physician’s actions (Shuster, Evelyn, 1997). This idea of the actions of the physicians being done “for the good of the state” and therefore the burden of responsibility laying with the state lasted for a long time, and it wouldn’t be until 2012 that the German Medical Association formally acknowledged that the burden of responsibility for the atrocious actions laid with the physicians, and could not be absolved by the government and political movements of the time (chelouche, tessa, 2013).

The defense team did not try to deny what had occurred, as the doctors and physicians performing the atrocities really believed what they were doing was morally right- one of the most difficult things for modern day bioethicists to reckon and discuss. Instead, the defense team attempted to justify their actions by claiming that the prisoners had indeed volunteered for the experiments, with the promise that if they survived the experiments they would be freed. This argument was quickly put to death by the testimony of a survivor of the hypothermia experiments who was told he would be given his freedom and was never freed, but rather given only a medal for his “contributions to science.” The argument was also made that those prisoners already condemned to die were chosen for the experiments; however, this requires that all prisoners had been given a fair trial for their “crimes” and sentenced by a judge and jury- something that obviously was not the case. This argument was taken one step farther in that suffering prior to dying was an opportunity for the prisoners to atone for their sins- however again, the only “sin” the majority of the prisoners were guilty of was being Jewish (LaFleur et al., 2007).

An argument was made on the basis of an ethical naivety, and that these Nazis were scientists and doctors, and therefore had no ethical training on what is “right” and “wrong.” To be effective scientists all that was required of them was to have a valid experimental design and process. The principle of “do no harm” as a physician automatically negates the argument, as well as the fact that Nazi’s had a code of medical ethics even prior to the Holocaust- one that was obviously not followed- so it was well established that physicians were required to uphold ethical standards and make decisions based on their best ethical judgements (LaFleur et al., 2007) (dark medicine- the ethics of evil).

The defense was quick to point out the unethical experiments that had been performed by the prosecuting nations, such as the Malaria experiments on prisoners in the United States. This complicated things for the prosecutors, as they now had to come up with a defining set of characteristics for when the unethical experiments were permissible and when they were not. The argument was made that prisoners in “civilized” countries were not at risk of being in danger if they refused participation, however the defense had revealed the prosecution's biggest weakness—that they too believed in and practiced unethical research and experimentation, as well as in the eugenic principles that had influenced and allowed the Holocaust to occur (Shuster, Evelyn, 1997).

The Nuremberg Code and Its Legacy:

The most notable thing to come out of the Nuremberg trials, in addition to the convictions and sentences of the accused, is the code of ethics known as the Nuremberg Code, a governing document of 10 principles that aims to prevent the horrors that occurred during the Holocaust from ever happening again. Three physicians were of incredible importance in writing the code; Leo Alexander, Andrew Ivy, and Werner Leibbrand. Alexander was a neuropsychiatrist and chief medical advisor to the prosecution, and Ivy was an American physiologist, and chief witness for the prosecution. Both Alexander and Ivy applied the principles of Hippocratic ethics, and its governing principle for the physician to “do no harm” to the patient. The moral center of Hippocratic ethics is that “the physician will use treatment to help the sick according to his ability and judgement, but never with the view to injury and wrongdoing,” putting all the responsibility of the decisions and care for the patient on the physician. Patient autonomy is not mentioned at all in Hippocratic ethics, the idea is that the patient will cooperate with the physician to fight the disease. However, this poses problems, as evidenced in unethical

experiments, when the physician's view of what is "best for the patient" is deeply perturbed, and the patient is left with no autonomy. The Nuremberg code aimed to combine this idea of Hippocratic ethics with protection of human rights and patient autonomy. Hippocratic ethics alone is often enough to protect the welfare of patients, but does not do enough to protect them in medical research, which is why the code was written, and thus the code is more focused on the patient's rights than the physician's obligations (Shuster, 1998). This is evidenced in the first of the ten governing principles of the code, that requires informed consent from the patient.

The ten governing principles of the code begin with the principle of informed consent. The first line reads "The voluntary consent of the human subject is absolutely essential," and goes on to dictate what exactly voluntary consent is. The other explicit idea expressed in the code for the first time was the ability for the participants to withdraw from the study at any given time (Czech et al., 2018). The codes major ten principles are written as follows:

1. The voluntary consent of the human subject is absolutely essential.

This means that the person involved should have legal capacity to give consent; should be so situated as to be able to exercise free power of choice, without the intervention of any element of force, fraud, deceit, duress, overreaching, or other ulterior form of constraint or coercion; and should have sufficient knowledge and comprehension of the elements of the subject matter involved as to enable him to make an understanding and enlightened decision. This latter element requires that before the acceptance of an affirmative decision by the experimental subject there should be made known to him the nature, duration, and purpose of the experiment; the method and means by which it is to be conducted; all inconveniences and hazards reasonably

to be expected; and the effects upon his health or person which may possibly come from his participation in the experiment.

The duty and responsibility for ascertaining the quality of the consent rests upon each individual who initiates, directs or engages in the experiment. It is a personal duty and responsibility which may not be delegated to another with impunity.

2. The experiment should be such as to yield fruitful results for the good of society, unprocurable by other methods or means of study, and not random and unnecessary in nature.
3. The experiment should be so designed and based on the results of animal experimentation and a knowledge of the natural history of the disease or other problem under study that the anticipated results will justify the performance of the experiment.
4. The experiment should be so conducted as to avoid all unnecessary physical and mental suffering and injury.
5. No experiment should be conducted where there is an a priori reason to believe that death or disabling injury will occur; except, perhaps, in those experiments where the experimental physicians also serve as subjects.
6. The degree of risk to be taken should never exceed that determined by the humanitarian importance of the problem to be solved by the experiment.
7. Proper preparations should be made and adequate facilities provided to protect the experimental subject against even remote possibilities of injury, disability, or death.
8. The experiment should be conducted only by scientifically qualified persons. The highest degree of skill and care should be required through all stages of the experiment of those who conduct or engage in the experiment.

9. During the course of the experiment the human subject should be at liberty to bring the experiment to an end if he has reached the physical or mental state where continuation of the experiment seems to him to be impossible.

10. During the course of the experiment the scientist in charge must be prepared to terminate the experiment at any stage, if he has probable cause to believe, in the exercise of the good faith, superior skill, and careful judgment required of him, that a continuation of the experiment is likely to result in injury, disability, or death to the experimental subject.

Continued Unethical Medical Experimentation in the United States:

While the Nuremberg code is an incredibly valuable document, outlining a detailed set of ethical standards, it was written by a panel of American judges who refused to acknowledge and address the underlying issues of race science and eugenics, because in doing so, they would also be condemning themselves of unethical experimentation. It also fails to lay out explicit protections for underrepresented and vulnerable groups, such as minorities, women, and children. Both of these issues with the code allowed for further unethical and abusive experimentation to occur in the United States.

As a result of our inability to acknowledge or remember our own unethical views, and our insistence on believing that unethical medical practices were limited just to “those” German scientists and physicians, unethical experimentation in the United States persisted throughout the 20th century and still today. From the syphilis experiments on uninformed, nonconsenting Black men in Tuskegee, to the infamous Henrietta Lacks, whose cells were taken from her without her consent, along with numerous other examples, unethical experimentation has continued in the United States, and remains a pressing issue.

The Tuskegee experiment was one of the most blatant examples of unethical experimentation in United States history. Beginning in 1932, the study followed 400 black men with syphilis in Macon county, Alabama for 40 years- allowing the men to go untreated and eventually die of the disease, even after penicillin was established as the routine and recommended treatment. Steeped in the eugenic principles and race science ideals coming out of notable medical institutions such as the University of Virginia, doctors and researchers wanted to observe the effects of syphilis as well as the progression of the disease, on different races. The researchers did not seek informed consent, and in fact, did not even tell the men they were participating in an experimental study (Paul & Brookes, 2015). This is an obvious violation of the very first principle of the Nuremberg code, requiring informed consent for all participants.

The Tuskegee experiments came out of the period of profound eugenic ideals, and social Darwinism that had taken hold at the turn of the 20th century, predicting the extinction of black people because they believed they were “in the throes of a degenerative evolutionary process.” Physicians agreed and concluded that the freeing of Blacks had caused the deterioration of their health, and supported their conclusions with comparative anatomy between Blacks and Whites- a principle later taken and applied by German Nazi’s as a way to justify their mass extinction of the Jews. Black bodies were considered to be “a mass of minor defects and imperfections,” and they were thought to be particularly sexual, making them especially prone to venereal diseases such as syphilis. The United States Public Health Service (USPHS) received a grant in 1929 to survey the prevalence of Syphilis among Blacks in the rural south, with the pretense of seeing if mass treatment was feasible, and found Macon County to have the highest prevalence rate. However, with the subsequent economic collapse in the early 1930s, the money never actually

came through, and the idea of mass treatment never came to fruition- but the preliminary data gathered became the basis of the Tuskegee study (Brandt, 1978).

The initial study design included no intention to provide treatment, despite what participants were told. The researchers initially found it challenging to recruit subjects, and were only able to get men to agree to participate by telling the men they were sick and offering treatment- despite having no intentions of doing so. The participants were given a noneffective drug to keep them interested in participating in the study, and were subject to painful procedures such as spinal taps, which they were told were a “special treatment.” Doctors in the area were directed not to treat any of the participants, and were given a list of names of the men so they would know not to provide treatment to any of them. In addition, the USPHS warned the Alabama health department not to treat the study participants when they took a mobile treatment bus for syphilis to Macon County. So, not only were the researchers blatantly disregarding the participants right to informed consent, they were actively working to prevent them from receiving treatment when it was readily available. Doctors later admitted that nothing learned from the study would ever help to cure a single case of syphilis but should continue anyway- a blatant case of researchers regarding their subjects as less than human (Brandt, 1978).

Doctors tried to explain the rate of syphilis in Blacks with four major eugenic principles; physical characteristics, behavioral traits, different susceptibilities to diseases, and differing pathologies of the diseases were all linked to genetics and inherited differently between races. Susceptibility was thought to be inherited from one generation to the next, and was a result of sexual promiscuity and hygienic practices among Blacks (Lombardo & Dorr, 2006).

The eugenic principles that allowed for the development of the Tuskegee experiments were also present in American public health policies and could be found in many of the major

educational institutions across the US. The three public health service officials who initiated the study- Cumming, Clark, and Vonderlehr- were all educated at UVA medical school, where they were educated in the principles of race science and eugenics. Just as Americans were condemning the Germans for their racism and unethical research practices, our own policies and institutions were fully endorsing and justifying one of the most horrifically unethical experiments, that lead to the painful deaths of hundreds of innocent men (Lombardo & Dorr, 2006).

Henrietta Lacks is another prime example of how racial prejudice plays a role in unethical medical practices. While the case is less obviously unethical than the Tuskegee experiments, the fact remains that while we were condemning the Nazi's for their racial prejudices, our own racial biases were running rampant as we abused the racial minorities in our own nation. Henrietta Lacks is the woman from whom the immoral cell line of HeLa cells was derived- one of the most commonly used cell lines in experiments still to this day. Henrietta Lacks had cervical cancer, and a sample of her cells was taken from her without her consent, and was preserved and begun being experimented on again without her knowledge or consent. Her family was not informed until much later, and any monetary compensation came far too late to matter to Henrietta herself. The case remains relevant and controversial today as the cell lines are still actively being used all across the globe, and debates still are ongoing over the ethical implications of not requiring consent for de identified bio specimens to be used in research- as it is currently not required (Wolinetz & Collins, 2020).

In addition to the Tuskegee experiments, and the Henrietta Lacks case, numerous other unethical experiments continued to occur in the US, in part, as a result of scientists and physicians in the US not taking their own ethical guidelines found in the Nuremberg code

seriously. In a landmark paper, “Ethics and Clinical Research,” fifty de-identified unethical studies were described, all taking place after World War II and the writing of the Nuremberg code. Of the said fifty studies, only two made mention of any form of consent for its participants- a remarkably low number, given the emphasis that was placed on the importance of informed consent by the American judges when crafting the Nuremberg code. Again, this is yet another indicator of the low level of seriousness with which American physicians considered the code and its values (Beecher, Henry, 2001).

Furthermore, the paper goes on to enumerate cases where known effective treatment was withheld- in direct violation of principle four of the code which states that experiments should be conducted to avoid physical harm. Physiologic studies that aimed to further understand a disease or drug were done by pushing patients to the boundaries of the diseases and/or treatments, putting patients at risk and through unnecessary procedures for the goal of greater scientific advancement. This again, goes against principle four of the code as unnecessary physical and mental suffering undoubtedly occurred in this study (Beecher, Henry, 2001).

One study reported that the researchers had injected the subjects with live cancer cells, after telling them that they would only be injected with “some cells.” Clearly no resemblance of informed consent can be claimed in this instance as the subjects were lied to about what was being injected into their bodies. In another case, melanoma cells were transplanted from a daughter to her consenting mother, with the hopes to “better understand” and to “find a cure” for her daughter’s disease- however, the daughter’s cancer was so advanced she had already been declared terminal and died the day of the transplantation. This is a prime example of emotional coercion to get informed consent, and was purely researchers preying on an emotionally vulnerable and desperate mother to further their experimentation. All of these cases demonstrate

the rampant unethical values of the experiments that were occurring in the United States, and the minimal impact the Nuremberg code appeared to have on them, as many of the researchers were in direct violation of one or more of the principles of the code (Beecher, Henry, 2001).

Another current ethically immoral study that the United States has been involved with serves as an example of how complicated medical ethics can be, and how we continue to make poor ethical choices today- although less intentionally than perhaps was seen in the Tuskegee experiments. We have run studies aiming to reduce the perinatal transmission of HIV from pregnant women to fetus in developing countries where treatment for HIV is harder to come by. The current standard treatment to reduce the risk of pregnant women passing HIV on to their children is expensive and not realistically sustainable in developing countries, so studies have been initiated to develop a drug that is cheaper and functions more effectively in the third world setting. The studies have been designed to be placebo-controlled studies- meaning that the control group of HIV positive pregnant women receive no treatment. At first glance, this seems a solid design study, however, as there is a current treatment for HIV positive pregnant women, withholding that treatment from the placebo group solely in the name of advancing science more quickly is not permissible- especially since the standard treatment is provided to researchers at no cost by the drug companies. This opens a slippery slope whereby we allow for different standards of care and experimental design between nations, and quickly begin valuing lives differently based on their socioeconomic status and geographical location (Lurie & Wolfe, 1997). Principle four of the Nuremberg code states that experiments should be done in such a way as to avoid all unnecessary physical harm- and experiments that do not provide access to standard treatments are certainly inducing unnecessary physical harm for their participants. Experiments such as this are also in violation of principle seven, which states that adequate

preparations should be made to protect the participants against even remote possibilities of injury, disability, or death- and letting HIV positive women go untreated will almost certainly result in injury, disability or death (Shuster, Evelyn, 1997). Taking the time to reflect on past medical ethics wrongdoings and to thoroughly evaluate how future studies may or may not fall into unethical territory is crucial as technology improves and we are faced with new ethical questions, and this case is a prime example of problems that can arise when we don't do this process justice.

Exploitation of underrepresented and at-risk communities was again exemplified in a study done on the length of transmissibility of Hepatitis in an institute for mentally defective children. The children themselves gave no consent, their parents consented for them- however the risks and results of being infected with hepatitis were not adequately explained to the parents, or to the children for that matter. This goes against the first and arguably most important principle of the Nuremberg code- the need for informed consent. Not only were the experimental subjects unable to provide consent for themselves, their benefactors who did give consent, were not properly informed on the study or what was going to happen to their children, so it was not truly informed consent. Additionally, one of the largest failings of the Nuremberg code is that it makes no mention of protections for underrepresented and vulnerable populations, such as women, children, and minorities- an issue that leaves room for experiments such as the aforementioned to occur. This lack of explicit protection and requirements has had serious consequences on experimentation and medical research in the United States, as vulnerable populations have continued to be exploited, or not adequately represented and rewarded in the research that does occur (Beecher, Henry, 2001).

One of the largest vulnerable populations that have experienced inadequate treatment in medicine and medical research is women, as the Nuremberg code provides no specific, or even implied, protections for their wellbeing. As healthcare has advanced, the definition of unethical has had to advance as well, and one of the largest incidences of unethical research now comes not only from more obviously unethical studies, like the ones that have been discussed, but from studies that do not represent minorities and women, and as a result have detrimental effects on their healthcare outcomes. The Nuremberg code fails in its ability to explicitly address these inequalities, and as a result, experiments have continuously occurred that do not “yield fruitful results for the good of society” as the code demands in its second principle. Rather, results are yielded only for those populations who are conducting the experiments.

For as far back as medical history goes, women have been subjected to coercion and unfair treatment by largely male physicians. In fact, the concept of a “person” has historically only referred to men, and Aristotle himself characterizes females as mutilated males (“Medical Ethics and Women,” 1990). As medical advances and drug development exploded in the late twentieth century, research scrambled to keep up with it, and the majority of this research was done exclusively on males. From male cell lines, to animals, all the way up to humans and clinical trials, it has largely been in the male body’s physical wellbeing that we have made progress. As a result, we know less about every aspect of the female body when compared to males, and diseases that present differently in males and females are often misdiagnosed in women (Jackson, Gabrielle, 2019). A well-known example of this discrepancy in the knowledge of disease between the sexes can be seen in heart disease; a condition for which we have almost an exclusively male model. Women’s death and risk factors for heart disease have been declining

at a slower rate than their male counterparts, as the knowledge and expertise for heart disease in women is so small when compared to men (Weisman, Carol & Cassard, Sandra, 1994).

Throughout much of the twentieth century, the FDA's policy was to discourage the inclusion of women in clinical trials, as they were potentially childbearing. This reduces the status and importance of women as a whole solely to their reproductive capabilities- forgetting that they are, in fact, entire humans as well. This mindset is extremely dangerous, and a slippery slope that is hard to come back from when you begin to reduce humans to less than their entire selves (Johnson, Tracy & Fee, Elizabeth, 1999). The consequences of this policy are profound, as the majority of treatments, medications, and findings that were put on the market and published drew conclusions from a largely male subject pool. More women than men experience side effects to medications, probably due to a lack of studying how the drugs interact with the female hormones, and, many health care providers are hesitant to prescribe medications for women that have only been tested on men. This principle, known as residual exclusion, once again exhibits the need for explicit protection for women's rights in the healthcare and research world, and the Nuremberg code's failings to enumerate such protective principles (Weisman, Carol & Cassard, Sandra, 1994).

While certainly less overt than previous unethical experiments, the lack of representation and protection of women in healthcare has led to disastrous results and unnecessary and preventable deaths for women all across the United States. These results are representative of an overall lack of taking medical ethics seriously, paying attention to our past histories, and a lack of reformation of the inadequate codes we currently have, such as the Nuremberg code.

Recent History:

As medicine has continued to progress, and rapidly so, the potential to fall back into old habits of unethical research is all too real. With technologies such as gene editing and DNA mapping making it more and more feasible to trace genetic components of ourselves from generation to generation, modern day geneticists and scientists need to be educated on our eugenic history, and aware of the dangers that could potentially lead them down future eugenic paths. The potential for even more severe consequences for modern day “newgenics” is frightening, and one that needs to be addressed in a timely manner.

The rapidly expanding field of genome mapping is one that has already begun to have dire consequences. A new type of discrimination- one based on the genes a person carries- has begun to weave its way into society, particularly in the all-important area of insurance. As familial history of genetic conditions or even predispositions have become increasingly more available, insurance companies have been able to capitalize on the information, up charging for health insurance, or even not covering people at all due to “pre-existing conditions.” This standard already has become problematic, discriminatory, and inherently unethical- as yet again we fall into an obsession with rewarding those with seemingly “good genes” and punishing those without (Black, Edwin, 2012e).

The potential to go one step farther and choose “good genes” for the next generations is already a reality, as parents are able to choose sex and other such characteristics for their children. While some such genetic alterations are largely viewed as positive- and of course correcting genes for deadly diseases is a good thing- the costs of the treatments create unequal access for some economic classes over others. Inherently, those with the monetary funds to afford genetic corrections, will begin to create a healthier, stronger generation- and economic

class will be intrinsically tied to genetic status. The potential for these principles to be applied is all too real, and is extremely reminiscent of the early eugenic era when the propagation of “good genes” was rewarded, and “bad genes” were killed off (Black, Edwin, 2012e).

One such way the United States has worked to further enumerate its rules and regulations surrounding ethical experimentation, and to prepare for the ethical implications with the rapidly growing medical research field, was with the publishing of the Belmont Report as recently as 1979. Building off of frameworks of previous ethical guidelines and codes, such as the Nuremberg code, the Belmont Report sought to further protect patients in both a clinical and research setting. It was created with the three principles of respect for persons, beneficence, and justice. Respect for persons details that people are autonomous beings and can make their own choices in regard to participation in clinical studies and in treatment plans. This particular aspect of the report was also used to provide specific protections for vulnerable populations, such as children and the mentally disabled. The principle of beneficence or “do no harm” is based on the idea of increasing the benefits and decreasing the risks for patients, making sure the patients are aware of all the known risks, and that there may be some unknown risks as well. Lastly, the report details the importance of justice, or the principle of equal treatment and fairness for all people (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979).

The Belmont Report is certainly a step in the right direction, as it begins to address key features such as equality and protection of vulnerable populations. However, as technology rapidly advances, legislation and revision of documents such as the Belmont Report can be slow to keep pace, and the dangers of having these reports viewed as archaic and inapplicable grows along with the risk to patients. The risk of creating a genetically “elite” class is very real, and a

new set of guidelines and legislation needs to be implemented. Taking time to consider how our past ethical mishaps could potentially shape the landscape of future medical ethics will be crucial in the development of new guidelines and considerations for ethical approval moving forward.

Conclusion:

The United States often acts as the moral police of the world, imposing our righteous beliefs on others and acting as though we are the gold standard against which all other nations should be compared. On the other hand, Germany, and their admittedly horrific eugenic policies in WWII, is often looked upon as being the worst example of a morally upright country, particularly with respect to human life and ethical principles.

However, as shown here, the United States is far from the morally upright nation we claim to be, particularly when it comes to medical ethics and respect for human life. Our eugenic policies not only allowed for the forced sterilization of thousands of Americans, but directly influenced and encouraged the German's race ideals in WWII. We then, acting as judges over the Germans, set forth an ineffective group of medical ethics guidelines known as the Nuremberg Code, that we did not consider to really be applicable to our own nation. Time after time, medical researchers in the United States have directly violated nearly every principle found in the Nuremberg Code. From not gaining informed consent, to deliberately withholding treatments, the United States has repeatedly and clearly expressed a disregard and lack of respect for the autonomy of persons, placing scientific advancement ahead of human life.

Moving forward, as genetics and medical science continues to advance, scientists and physicians in the US need to be careful to remember our own history. Many of the advancements have developed out of the unethical eugenic practices of the past, and we need to be careful to not allow ourselves to continue them into the future. Taking the time to analyze and remember

these past mistakes will be crucial in moving forward as science progresses, as history has shown that America is all too willing to dip into the realm of unethical experiments in the name of science, and that mindset must be addressed and eliminated as we move forward.

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