Affirmative Case: Bioethics

By Josiah Hemp

Resolved: In the field of biomedical engineering, restraint ought to be prioritized over scientific advancement.

Bioethics is a large field, but this case uses four commonly used principles of bioethics. These principles are regularly referred to in healthcare ethics literature, and they are also defined in that literature. This case looks at each of these four principles and argues that they support the affirmative.

Biomedical engineering is a complex field, and the ethics of biomedicine sometimes seems more complex. However, when we take a close look at the ethical standards that the medical community is already using, it becomes clear that in the field of biomedical engineering, restraint ought to be prioritized over scientific advancement.

Definitions

“Biomedical engineering.” Merriam-Webster.com Dictionary, Merriam-Webster, <https://www.merriam-webster.com/dictionary/biomedical%20engineering>. Accessed 5 Aug. 2021.

“the application of engineering principles, practices, and technologies to the fields of medicine and biology especially in solving problems and improving care (as in the design of medical devices and diagnostic equipment or the creation of biomaterials and pharmaceuticals)”

STANDARD: The Principles of Bioethics

Today’s resolution deals with the intersection of biomedicine and how to make ethical decisions. Thus we are dealing with a question of bioethics. Thus it is most helpful to look at the standards for bioethics that are actually used by scientists, ethicists, and biomedical engineers.

Dr. Thomas R. McCormick, (D.Min., Senior Lecturer Emeritus, Dept. Bioethics and Humanities, School of Medicine, University of Washington) “Principles of Bioethics” University of Washington Medicine. No date. Accessed August 4, 2021. <https://depts.washington.edu/bhdept/ethics-medicine/bioethics-topics/articles/principles-bioethics>

“Four commonly accepted principles of health care ethics, excerpted from Beauchamp and Childress (2008), include the:

Principle of respect for autonomy,

Principle of nonmaleficence,

Principle of beneficence, and

Principle of justice.”

In this speech we will look at each of these principles and see how the resolution upholds them.

Second source that points to these four principles

Avasthi A, Ghosh A, Sarkar S, Grover S. Ethics in medical research: General principles with special reference to psychiatry research. Indian J Psychiatry. 2013;55(1):86-91. doi:10.4103/0019-5545.105525. Accessed from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3574464/> August 5, 2021.

“Ethics is an understanding of the nature of conflicts arising from moral imperatives and how best we may deal with them. Ethics in medical research deals with the conflicts of interest across various levels. Guidelines have been proposed for standardized ethical practice throughout the globe. The four fundamental principles of ethics which are being underscored are autonomy, non-maleficence, beneficence, and justice. Some special ethical issues have particular relevance to psychiatric research arising primarily from the specific vulnerabilities of those with mental illness and the risks posed by some research methodologies. Accordingly, sensitivity is required in the design of psychiatric research. It is suggested that though the value of published guidelines and the help that may be available from research ethics committees is quite great, the primary responsibility for maintaining high standards of practice in research rests with research workers themselves.”

CONTENTION 1: Prioritizing Restraint Respects Autonomy

Dr. Thomas R. McCormick, (D.Min., Senior Lecturer Emeritus, Dept. Bioethics and Humanities, School of Medicine, University of Washington) “Principles of Bioethics” University of Washington Medicine. No date. Accessed August 4, 2021. <https://depts.washington.edu/bhdept/ethics-medicine/bioethics-topics/articles/principles-bioethics>

“Any notion of moral decision-making assumes that rational agents are involved in making informed and voluntary decisions. In health care decisions, our respect for the autonomy of the patient would, in common parlance, imply that the patient has the capacity to act intentionally, with understanding, and without controlling influences that would mitigate against a free and voluntary act. This principle is the basis for the practice of "informed consent" in the physician/patient transaction regarding health care. (See also Informed Consent.)”

In other words, respecting autonomy means that the decision of the patient must be respected. This will often entail prioritizing restraint above scientific advancement. This makes sense when we look at the motivations behind the scientist and the motivation behind the patient. The job of the scientist or biomedical engineer is to make scientific advances. They want to improve technology for the better. They likely want to help the patient as well, but they may miss the patients concerns because they are overly focused on the future. In contrast, the patient is concerned primarily with their own healing and wellbeing.

It is important to respect patients as ends in themselves, rather than being means to an end. We need to first be concerned with their rights, including their right to refuse experimental procedures, before we are concerned with making scientific advances. This is one of the reasons why restraint needs to be valued above scientific advancement.

CONTENTION 2: Prioritizing Restraint Upholds Non-Maleficence

Dr. Thomas R. McCormick, (D.Min., Senior Lecturer Emeritus, Dept. Bioethics and Humanities, School of Medicine, University of Washington) “Principles of Bioethics” University of Washington Medicine. No date. Accessed August 4, 2021. <https://depts.washington.edu/bhdept/ethics-medicine/bioethics-topics/articles/principles-bioethics>

“The principle of nonmaleficence requires of us that we not intentionally create a harm or injury to the patient, either through acts of commission or omission. In common language, we consider it negligent if one imposes a careless or unreasonable risk of harm upon another. Providing a proper standard of care that avoids or minimizes the risk of harm is supported not only by our commonly held moral convictions, but by the laws of society as well (see Law and Medical Ethics). This principle affirms the need for medical competence. It is clear that medical mistakes may occur; however, this principle articulates a fundamental commitment on the part of health care professionals to protect their patients from harm.”

In order to uphold non-maleficence, we need to “avoid or minimize the risk of harm.” Of course, restraint is exactly what does that—restraint exists to avoid harm.

It is important to realize that we are not invincible—there is a very real possibility for very serious harm.

Richard Bell "Scientific Restraint: The Balance between Progress and Safety" (2010). Senior Honors Projects. Paper 168. Faculty Advisor: Henry, Timothy [faculty advisor, Department of Computer Science and Statistics] <http://digitalcommons.uri.edu/srhonorsprog/168http://digitalcommons.uri.edu/srhonorsprog/168>

“Mankind’s collective scientific and technological knowledge has progressed, and is progressing, at such a rate that humanity is now well within its means to bring about widespread devastation by its own devices. The high stakes of many projects in diverse fields of study, including those in nuclear, genetic, and biotechnical sciences, necessitates an analysis of how to decide if risky experiments are worth pursuing**. [UNQUOTE]** This is not a matter, so much, of what safeguards we put into place in dangerous experimental environments, but rather how to weigh potential loss versus potential gain. **[HE CONTINUES, QUOTE]** Even in the best laboratories, disaster can strike, be it by a fluke of nature, a malignant human entity, or sheer accident, and mankind must choose its avenues of exploration carefully so as to ensure it does not bring about its own downfall. Having evaded disaster thus far, even through the tense years of the Cold War’s nuclear standoff, humanity’s ability to stare down and eventually walk away from its own destruction has given the general public an unwarranted sense of infallibility.**[ UNQUOTE]** As such, any talk of so-called “doomsday” events, particularly manmade, is relegated to science-fiction and widely disregarded by reputable sources of power. **[LATER HE WRITES, QUOTE]** Indeed, there is no way to predict man’s likelihood of demise. Gott’s and Leslie’s broad sampling and unrealistic presuppositions in labeling mankind with an expiration date created little of value, and non-mathematical predictions, like McLuhan’s idea that expanding communication technologies would subvert disaster, are both vague and idealistic. Laws can only go so far in stopping unsafe scientific practices due to differing opinions among governments, and a corrupt body could restraint progress too far, stifling creativity. Ultimately, the most responsible approach to balancing scientific restraint and progress is to emphasize shared knowledge and strengthen lines of international communication. A centralized forum should be implemented in which various national governments can converse with scientists and risk management specialists to decide what projects are responsible to pursue.”

CONTENTION 3: Prioritizing Restraint Upholds Beneficence and Justice

Beneficence requires that we do good, justice requires that we treat others well by giving them their due and acting fairly.

Avasthi A, Ghosh A, Sarkar S, Grover S. Ethics in medical research: General principles with special reference to psychiatry research. Indian Journal Psychiatry (a respected peer reviewed publication). 2013;55(1):86-91. doi:10.4103/0019-5545.105525. Accessed from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3574464/> August 5, 2021.

The four principles of Beauchamp and Childress – autonomy, non-maleficence, beneficence, and justice – have been extremely influential in the field of medical ethics, and are fundamental for understanding the current approach to ethical assessment in health care. Respect for autonomy stands for acting intentionally after being given sufficient information and time to understand the information. Beneficence is directed to promote the well-being of patients and society. On the other hand, non-maleficence implies first do no harm which can be achieved by careful decision making and having adequate training. Justice deals with the equitable distribution of social benefits.”

Thus beneficence simply means that we need to help patients directly and society as a whole. Helping society as a whole is scientific advancement. Helping the patients lends itself to restraint. So how do we know which of these two is more important? The final principle, justice, will sort this out. The same paper continues,

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Principles of the maximization of the public interest and of distributive justice

The research or experiment and its subsequent application should be conducted and used to benefit all human kind (and not just those who are socially better off), in particular, the research participants themselves and or the community from which they are drawn.”

Although these authors were specifically writing about experiments in the field of psychiatry rather than biomedical engineering, this is a broad principle that applies across medical experiments. Although justice does require an overall benefit to humanity (i.e., scientific advancement), it especially requires that the research participants, i.e., the patients, be benefited. Thus, the *focus* is again shifted away overall scientific advancement back to the interests and needs of the patients. As explained in Contention 1, this shows we should prioritize restraint, because restraint will better uphold the interests of the patient, because the patient is more interested in their safety and wellbeing and is less likely to take large risks to their life in order to potentially achieve scientific advancement.

Conclusion

The principles of bioethics: autonomy, non-maleficence, beneficence, and justice are best upheld by prioritizing restraint. In order to do what is right, we need to first be concerned with the patient, and view the patient as an end in themselves. This will involve prioritizing restraint, because restraint will best protect the interests of the patient and ensure that the patient is safe and healthy. Thus the ethical choice is to prioritize restraint above scientific advancement.

How To Respond

The following is advice on how to respond to the case. Don’t think that these are the only possible responses (or even the best responses—these are just a few ideas to help you get started in responding to the case.

The affirmative has taken up a burden to prove the four principles: autonomy, non-maleficence, beneficence, and justice. They chose to take up that standard, now you can argue how most of the principles (or at least the “most important principles” are actually best met by your side.

In my opinion, autonomy and non-maleficence lean fairly heavily toward the AFF position. I think beneficence leans NEG, and I think justice could easily be the deciding argument.

Beneficence requires that we benefit someone—specifically the patient and society. There are many good arguments to be made that the health of patients are improved by advancements in biomedical engineering. For examples, see my negative cases “NEG: Health” and “NEG: Human Flourishing.” Also, don’t let the affirmative ignore the fact that beneficence calls for benefitting society as well as the individual patient.

The definition of the biomedical principle of justice could easily be used by the negative.

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The affirmative is putting the emphasis on helping the research participants, you will likely want to focus on the community and “all human kind.”

The four principles of bioethics set an interesting standard, and if you choose you can likely win with this standard on either side.