HoMMUNC XXXVIII

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Horace Mann Model United Nations

Legal

Rain Li

Chair

HoMMUNC XXXVIII

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Dear Delegates,

It is our pleasure to welcome you to Horace Mann's 38th Annual Model United Nations Conference, HoMMUNC XXXVIII! Since 1985, HoMMUNC has brought together future world leaders to discuss pressing global issues. We hope that this day can be full of meaningful and didactic debate, discourse, and collaboration. We are honored to be able to organize this conference for all of you, and hopefully provide you with an enjoyable Model UN experience. We hope you are as excited as we are!

We encourage you to deeply explore your topics and arrive at HoMMUNC prepared to engage with others and involve yourself in debate, regardless of your age or experience with Model UN. Each committee is composed of a diverse group of delegates and will address a unique set of topics ranging from protecting freedom of the press to the weaponization of smallpox and the preservation of indigenous culture. We challenge you to delve deep into research and think creatively about how to address these complicated issues. Take this opportunity to learn as much as you can, work collaboratively, and be a leader in your committee.

Model United Nations has played a massive role in our lives over the past three years, and we are thrilled to share it with all of you. It has been our pleasure preparing HoMMUNC XXXVIII along with our dedicated junior and senior staff over the past six months. We hope you have an enriching and enjoyable experience at the conference!

Sincerely,
Nate Chiang and Lily Wender
Secretaries-General of HoMMUNC XXXVIII

COMMITTEE PROCEDURE:

Roll Call: at the beginning of every committee session, the chair will take attendance, and every delegate must respond "present." If you are late coming to committee, send a note to the dais to let them know you are present.

Motions: used to open and close debate, decide to move to voting procedure, to propose a speakers list, moderated or unmoderated caucus. The chair will entertain several motions at one time, then will have all delegates vote on each motion in order of most to least disruptive, and the motion with the majority passes.

Speaker's List: a type of debate used to start committee, often meant to set the agenda, in which the chair would create a list of speakers.

Moderated Caucus: another form of debate, used most often during committee, that has a set time, speaking time, and specific topic to debate. Your chair will call upon countries to speak. When a delegate wishes to speak, they will raise their placard when told.

Unmoderated Caucus: a time when the rules of formal debate are suspended, during which delegates can leave their seats. This time is used for delegates to build blocs and write draft resolutions.

Resolutions: require a set number of sponsors who worked on drafting the resolution, and a list of signatories who would like to see the resolution debated. Resolutions are presented by the sponsors of the draft resolution, after which a Q&A session will be held.

TOPIC: GENE EDITING

Overview

Genome editing is a method that enables scientists to change the DNA of many organisms, including plants, bacteria, and animals. Developed in 2009, Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR)/ Cas9 is one of the most frequently used gene editing technologies today. CRISPR is simpler, faster, cheaper, and more accurate than older genome editing methods. Cas9 is an enzyme that acts as "molecular scissors," which cut DNA at a location specified by a guide RNA. The technology works by cutting DNA precisely and then utilizing natural DNA repair to complete the editing process. CRISPR/ Cas9 is capable of doing several types of gene operations: disruption (inactivation of DNA), deletion, correction, and insertion.

Gene editing has applications both in research and the practical world. First, researchers often use gene editing to investigate various human diseases. Since animals share many genes with humans (for example, nearly 85% of the genes between mice and humans are the same), they modify the genomes of animals like mice and zebrafish. By observing the genes of animals after the modifications, scientists can predict how humans will react to disease. Besides research, gene editing has many practical uses. Genetic engineering is widely used in agriculture, as the manipulation of plant genomes is used to increase their shelf life and make them less susceptible to environmental damage. Furthermore, changes in DNA lead to changes in physical traits in humans or animals, such as changes in eye color and disease risk.

Genome editing tools have the potential to help treat diseases with a genomic basis, like cystic fibrosis and diabetes. There are two different categories of gene therapies: germline therapy and somatic therapy. Germline therapies change DNA in reproductive

cells, and the changes in DNA of reproductive cells are passed down from generation to generation. Somatic therapies, in contrast, target non-reproductive cells, so changes only affect the person who receives the gene therapy.

While genetic editing therapy can have life-saving effects, there are technical and ethical barriers. It is possible that gene editing technology can incorrectly modify the genome, potentially creating irreversible consequences. Ensuring the safety of gene therapies and improving current technologies are crucial before this technology is ready for use in patients. The ethical aspect of gene editing is widely debated, and there are many questions still to be answered. For example, can gene therapy be used on an embryo when it is impossible to get permission from the embryo for treatment? Is getting permission from the parents enough? Should genome editing for traits not important for health, such as athletic ability or height be permitted? Should scientists ever be able to edit germ cells?

The laws around gene editing are vague and not comprehensive. Many countries have some policies that touch on this topic but only on a high level rather than anything specific. For example, the US prohibits germline gene editing there is no federal legislation that dictates protocols or restrictions regarding human genetic engineering.

History

Genetic editing is a fast-developing industry. Since the discovery of the structure of the human genome in 1953 by Francis Crick, James Watson, and Rosalind Franklin, scientific developments in genetics have accelerated. The first targeted genomic changes were produced in mice in the 1980s, which were modified by inserting a DNA virus into an early-stage mouse embryo. They were used to test biological reactions to certain DNA sequences. The first

genetically modified (GM) crops were first introduced in the USA in 1994, which were engineered to grow faster and last longer. Today, approximately 90 percent of the corn, soybeans, and sugar beets on the market are GMOs in the US. The last major United Nations resolution on the topic of genetically modified crops came in the early 2000s, which recognized the economic benefits of GM crops but also warned of the possible dangers of the technology.

The 1990s also saw the first clinical trials of gene therapies aimed at treating rare genetic disorders caused by a single gene mutation. On September 14, 1990, the first approved gene therapy trial was performed on a four-year-old girl born with severe combined immunodeficiency (SCID) by W. French Anderson and his colleagues at the National Institutes of Health (NIH). This trial was a success, and the girl now lives healthily. In 1999, Jesse Gelsinger, an 18-year-old, died four days after being injected with a recombinant adenovirus to treat ornithine transcarbamylase deficiency, which sparked doubts and caution around gene editing. While this case was viewed as a major setback for the gene editing industry, now, there are more than 2,600 gene therapy clinical trials that have been approved—either completed or in progress.

In 2015, scientists successfully used somatic gene therapy when a one-year-old in the United Kingdom named Layla received a gene editing treatment to help her fight leukemia, a type of cancer. Interestingly, the scientists did not use CRISPR; instead, they used another genome editing technology called Transcription Activator-Like Effector Nucleases (TALEN). Layla received permission to use gene therapy only after the failure of numerous non-genetic treatments beforehand. This therapy saved Layla's life.

In 2018, a Chinese scientist He Jiankui utilized genetic engineering technology to modify the genomes of

two human fetuses, essentially eliminating the possibility of them contracting HIV. He received great amounts of backlash worldwide as a result, and he served three years in prison for "illegal medical practices." The rate of advancement of genetic editing is increasing day by day.

Even though there is no international treaty on the general application of genetic editing, there are key regional human rights instruments containing specific provisions applicable to genetic interventions. For example, the Council of Europe's Oviedo Convention on Human Rights and Biomedicine, the EU Charter of Fundamental Rights, and the 2005 UNESCO Declaration on Bioethics and Human Rights. These documents have a consensus on the following: Interventions on the human genome can only be undertaken for preventive, therapeutic, or diagnostic purposes, with eugenics being strictly prohibited; Any research and clinical application concerning the human genome ought to be conducted with full respect for human dignity and human rights; The risks that may be incurred by a person ought not be disproportionate to the potential benefits and there are requirements of rigorous risk assessment and adequate risk management to minimize the potential risks for the individuals affected; Genetic interventions are subject to a strict requirement of informed consent; due regard ought to be given to the rights of future generations.

Some milestone conferences on gene editing have been in recent years. For example, the International Summit on Human Gene Editing held in 2015, 2018, and 2023 is a platform for scientists and regulators to discuss technological breakthroughs along with the need for careful consideration of ethical boundaries.

Current Situation

Given the fast developments in genome editing, combined with the ease with which people can cross

borders to access new healthcare technologies, international regulation regarding gene editing is necessary. These policies must be set in place before genetic editing becomes easily accessible worldwide because it would be difficult to reverse the consequences of the malpractice of gene editing. Scientists and the WHO have called for a global moratorium on heritable genome editing until its implications have been properly considered.

While documents including the Council of Europe's Oviedo Convention on Human Rights and Biomedicine, the EU Charter of Fundamental Rights, and the 2005 UNESCO Declaration on Bioethics and Human Rights lay out a guideline of a general international consensus, it is vague and difficult to enforce. There is no generally accepted or clearly defined threshold of safety or acceptable risk that is required before the clinical application of genome editing is allowed. Nor is there a common understanding or definition of the key concepts involved, i.e., "the human genome", "gene", "germline", "embryo", or "eugenics." There are no clear legal distinctions between what constitutes a 'disease' as opposed to a naturally occurring mutation, let alone what is a "serious disease" that might change the risk/benefit balance.

Furthermore, domestic laws are sometimes incoherent. For example, certain jurisdictions of a country might expressly prohibit germline editing through criminal law sanctions while others impose civil law sanctions or use non-binding guidelines.

The public is divided on the use of genetic editing. Among U.S. adults, there is an equal amount (30% each) who say the widespread use of gene editing to greatly reduce a baby's risk of developing serious diseases is a good idea or bad idea for society. About 39% are not sure how they feel about using gene editing for this purpose.

There are different degrees of regulation surrounding gene editing

worldwide, and it is vague in many cases. In a survey conducted by the Pew Research Center, it was found that 96 out of 106 surveyed countries have policies relevant to the use of genome editing to modify early-stage human embryos. Most of these 96 countries do not have policies that specifically address the use of genetically modified in vitro embryos in laboratory research (germline genome editing); of those that do, 23 prohibit this research and 11 explicitly permit it. Seventy-five of the 96 countries prohibit using genetically modified in vitro embryos to initiate a pregnancy. No country explicitly permits heritable human genome editing.

There are also key challenges surrounding GM crop regulations. First, people worry about the ecological consequences such as the transfer of modified genes to wild plants. Furthermore, while food safety agencies generally approve of GM crops, the long-term health effects are still not fully studied. Similar to human genetic editing, different countries have varying levels of strictness in their regulatory frameworks. The public perception of GM crops is also mixed, as many people view them as bad for health.

Possible solutions

Many people in the office are unaware of the technology behind gene editing. Problems and ambiguities arise as a result of this lack of understanding. Addressing this might begin to allow governments to reach a position on the topic of gene editing. Beyond just educating government officials, the general public should be fully informed on the process of gene editing to fully understand the complexities of human genome editing including its benefits and drawbacks. To combat the lack of knowledge, countries can work together to create an educational database that gives information on gene editing to the general public. Each country or region can maintain a section of the database

for their respective languages, and the overall information will be monitored by the UN to ensure accuracy.

There is a lack of clarity in existing international guidelines. Delegations might consider how to clarify and add to the existing international definitions regarding gene editing, which will impact existing or new guidelines. Furthermore, consider ways to standardize enforcement worldwide. Consider whether there are existing UN bodies that can accomplish this role or whether new ones need to be established. For example, one can consider creating an UN-regulated convention annually to discuss these issues.

Delegates should also consider the extent to which genetic engineering research should be allowed. Should there be a limit on the rate of development of gene editing? Should the government fund gene editing research—if so, which type of gene editing? Is it dangerous for certain countries to hold more advanced genetic editing technologies than others? Should international or domestic law regulate these issues? There are many ways to approach regulating research. Delegates can consider policies that permit research with contingencies such as publicizing all results, data, and procedures. Also, instead of permitting independent research on gene editing because regulations and resources for research differ drastically worldwide, the UN can host regulated research periods at centralized locations annually to provide all scientists worldwide an equal opportunity to research under a controlled environment, which would eliminate cases of unlawful research practices.

To address the problems of GM crops, delegations can consider ways to improve the long-term monitoring of GM crops' health effects, such as partnering with researchers to launch a program to track the health indicators of people who primarily consume GM vs. non-GM crops. Furthermore, to

increase consumer awareness of GM crops, consider enforcing mandatory labeling of GM crops. Also, create educational programs to reach the general public about the existing research on GM crops to allow consumers to make the decision for themselves.

Bloc positions:

Africa:

Africa has generally taken a harsh stance on gene editing regulations. Currently, only South Africa and Uganda have labs equipped for gene editing. Kenya does have the necessary regulatory framework for this technology, but it has yet to establish a gene editing lab. Many African nations want restrictions on research and technologies for genetic editing, as they do not have the same capabilities as more developed nations. The vast majority of countries within Africa have also adopted an anti-GMO stance

Americas

The United States and Canada have similar restrictions., both placing strict regulations on therapeutic uses of genetic editing. The US currently prohibits public funding for germline gene editing research, despite no formal law in place regarding human genetic engineering. In 2021, the US also relaxed policies regarding GMO plants. While Central American countries also have strict policies, they lag behind in gene editing research and technology compared to the US and Canada.

Asia:

Asia has been a hub for genetic editing research. For example, some of the first CRISPR/Cas9 trials were conducted in Asian countries. Also, some Asian countries' cultural beliefs on health and wellness influence the public perception of gene editing research. Japan's germline gene editing regulations are looser than in most of

the world, as research on germline editing is permitted. Although China was once at the center of unethical gene editing practices because of He Jiankui's unlawful gene editing, the country has since enacted stricter regulations. However, many still criticize that China's human gene editing regulations do not go far enough.

Europe

The EU has more comprehensive and strict regulations on gene editing than most of the world. Germline gene editing is specifically banned, but like many other countries, specific regulation is lacking. Some countries in the EU have even banned the use of GMO plants. However, recently, the EU passed a bill relaxing regulations on GMO plants.

Questions to Consider

1. Where does your country stand in terms of allowing or prohibiting gene editing?
2. How specific are your country's regulations? Are they being enforced? How effective is it? Can it serve as an international model?
3. Should there be restrictions on research and technology of gene editing?
4. What guarantees can be put in place to ensure the new technology is safe to use before it is made clinically available?
5. What are the relevant human rights, norms, and standards that apply to gene editing? Is the existing international regulatory framework sufficient or are new standards—if not a new framework specifically designed to address genome editing—needed?
6. How can international law help balance the risk vs. benefit concerning the welfare of the

individual, the interests of society, and humankind as a whole?

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