NHSMUN

Background Guide | *UNESCO*

NHSMUN
National High School Model United Nations

Dear Delegates,

I welcome you to the United Nations Economic, Scientific, and Cultural Organization for NHSMUN 2025! My name is Brinda Garg, and I am your director for Session I. This will be my second year staffing NHSMUN, and I am beyond excited! In high school, I attended NHSMUN as a senior and was a delegate in the European Court of Human Rights. I had an amazing time as a delegate at NHSMUN, and I hope your experience is both educational and enjoyable.

I was born and raised in Los Angeles, California, though my family is from India. I am a freshman at the University of California, Berkeley, where I study materials engineering and data science. While I am not entirely sure what I want to pursue in the future, I am particularly interested in sustainability and hope to pursue a career in the field. Outside of school, I am a big reader (let me know if you have any good book recommendations!) and enjoy playing tennis. My favorite sitcoms are New Girl and Brooklyn Nine-Nine. I also love to travel in any capacity, whether a couple-hour drive or a 12-hour flight. I have recently discovered that it is possible to travel to Antarctica, and I would love to visit one day!

I have been a part of Model UN for about seven years, and it has been an incredible journey.

Model UN has helped me grow as a person in both attending and staffing conferences. The skills gained from participating in Model UN, such as research and public speaking, are invaluable. Perhaps most importantly, Model UN has helped me understand the importance of compassion and collaboration. Working with like-minded individuals with varying perspectives has been such a gratifying experience. My worldview has tremendously expanded due to Model UN, and I am so glad it has been such a long-standing part of my life. Attending a large conference such as NHSMUN can be daunting, but I hope all of you leave with fond memories and new learning experiences!

Though the topics at hand focus on different aspects of UNESCO's mandate, they are both significant in our current day and age. Karyn and I have prepared this background guide to be the foundation of your research. Both topics are complex and at times confusing, so always feel free to reach out! We are here to answer any of your questions about the paper, conference, or Model UN in general. I cannot wait to meet you all!

Best,

Brinda Garg
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Session I
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Dear Delegates,

Welcome to the United Nations Educational, Scientific and Cultural Organization for NHSMUN 2026! I am Karyn Fu, and I will be serving as your director for Session II. I am very excited to meet you all in committee and hear all of your creative solutions for these topics. If you have any questions as you read this background guide and prepare for debate, please do not hesitate to reach out!

A little bit more about me—I am originally from Manhattan Beach, California, just outside of Los Angeles. I am currently a sophomore at Rice University in Houston, Texas, pursuing a dual degree in biosciences and social policy analysis, with a minor in data science, on a pre-medical track. I am involved in the American Medical Women's Association, Biokind (a healthcare data science club), and our Rice Women's Resource Center on campus. I also research prostate cancer at MD Anderson and health criminology research at UT Health Houston. In my free time, I love discovering new music, exploring Houston, and going for walks outside.

This will be my third year working as NHSMUN staff and my ninth year doing MUN. I have previously served as the director for the World Health Assembly and the assistant director for the Commission on Science and Technology for Development! I also had the privilege of attending NHSMUN as a delegate during my junior year of high school. It was the biggest conference I had ever attended, and I remember the nervous excitement some of you may be experiencing now. I also remember leaving the conference as a better debater, public speaker, and leader. I hope to make our committee a similarly rewarding learning experience. In turn, I encourage you to step outside your comfort zone during committee and take advantage of the unique, diverse environment NHSMUN fosters.

Brinda, our Session I director, and I have chosen interesting, pertinent topics that we are excited to see you debate. The background guides we have prepared should provide foundational knowledge on which you can perform further research and brainstorm solutions. We ultimately hope these background guides will inspire you to delve deeper into these topics and gain a very thorough understanding of the issues at hand. Again, we encourage you to use me and Brinda as a resource during your debate preparation process and reach out if you have any questions. I look forward to hearing about the innovative, intelligent solutions you all devise in the coming months, and I can not wait to see you in committee in March!

Best,

Karyn Fu
United Nations Educational, Scientific and Cultural Organization Director
Session II
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A NOTE ON RESEARCH AND PREPARATION

Delegate research and preparation is a critical element of attending NHSMUN and enjoying the debate experience. We have provided this Background Guide to introduce the topics that will be discussed in your committee. We encourage and expect each of you to critically explore the selected topics and be able to identify and analyze their intricacies upon arrival to the conference.

The task of preparing for the conference can be challenging, but to assist delegates, we have updated our Beginner Delegate Guide, Advanced Delegate Guide, Research Guide, and Rules of Procedure Guide. In particular, these guides contain more detailed instructions on how to prepare a position paper and excellent sources that delegates can use for research. Use these resources to your advantage. They can help transform a sometimes overwhelming task into what it should be: an engaging, interesting, and rewarding experience.

To accurately represent a country, delegates must be able to articulate its policies. Accordingly, NHSMUN requires each delegation (the one or two delegates representing a country in a committee) to write a position paper for each topic on the committee's agenda. In delegations with two students, we strongly encourage each student to research each topic to ensure that they are both prepared to debate throughout the committee. More information about how to write and format position papers can be found in the Research Guide. To summarize, position papers should be structured into three sections.

I: Topic Background – This section should describe the history of the topic as it would be described by the delegate's country. Delegates do not need to give an exhaustive account of the topic. It is best to focus on the details that are most important to the delegation's policy and proposed solutions.

II: Country Policy – This section should discuss the delegation's policy regarding the topic. Each paper should state the policy in plain terms and include the relevant statements, statistics, and research that support the effectiveness of the policy. Comparisons with other global issues are also appropriate.

III. Proposed Solutions – This section should detail the delegation's proposed solutions to address the topic. Descriptions of each solution should be thorough. Each idea should clearly connect to the specific problem it aims to solve and identify potential obstacles to implementation and how they can be avoided. The solution should be a natural extension of the country's policy.

Each topic's position paper should be **no more than 10 pages** long double-spaced with standard margins and 12 point font size. This is a maximum; **3–5 pages per topic is often a suitable length**. The paper must be written from the perspective of your assigned country and should articulate the policies you will espouse at the conference.

Each delegation is responsible for submitting position papers on or before **February 20, 2026**. If a delegate wishes to receive detailed feedback from the committee's dais, a position must be submitted on or before **January 30, 2026**. The papers received by this earlier deadline will be reviewed by the dais of each committee and returned prior to your arrival at the conference. Instructions on how to submit position papers will be shared directly with faculty advisors.

Complete instructions for how to submit position papers will be sent to faculty advisers via email. If delegations are unable to submit their position papers on time, please contact us at nhsmun@imuna.org.

Delegations that do not submit position papers will be ineligible for awards.

Committee History

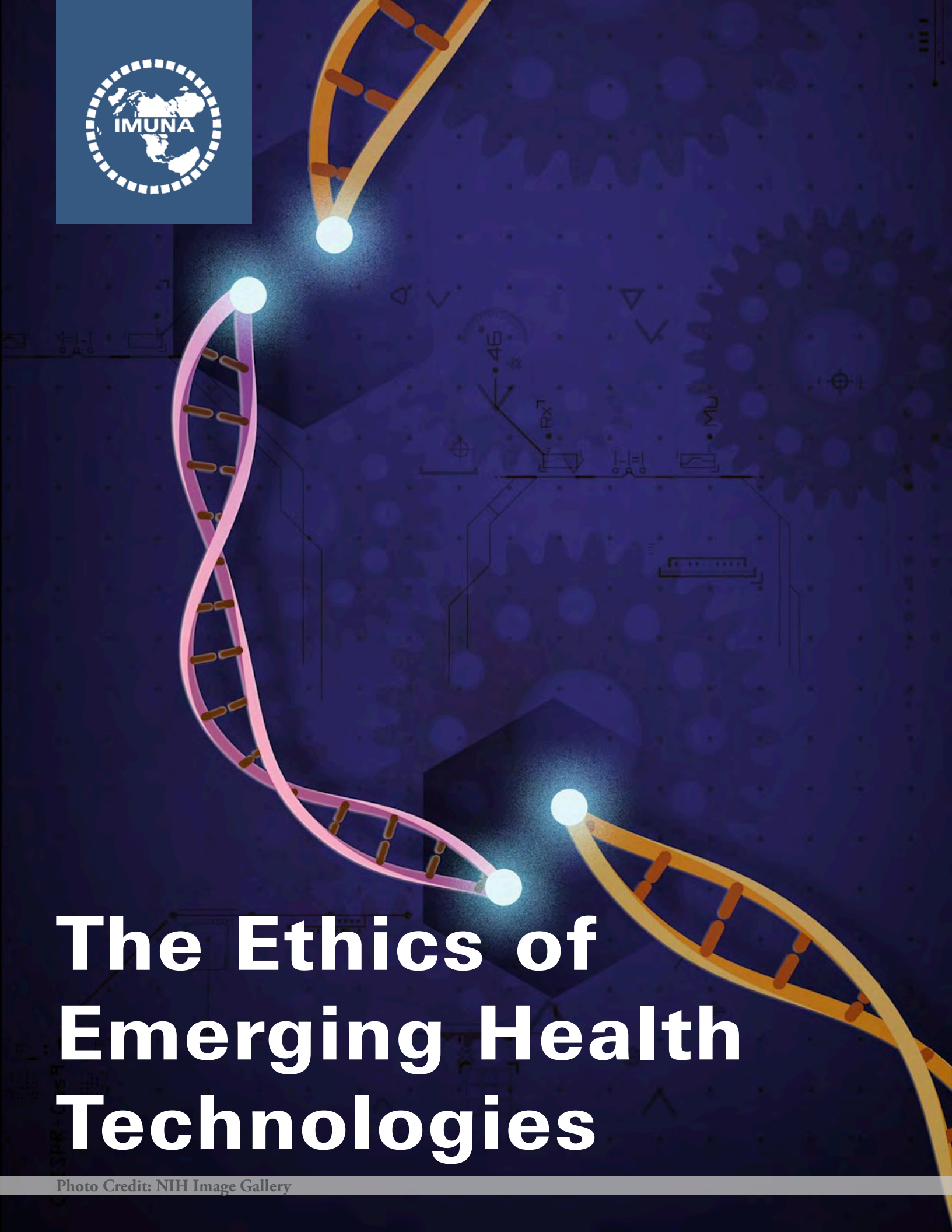
The United Nations Educational, Scientific, and Cultural Organization (UNESCO) was founded on November 16, 1945.[1] UNESCO's mission was to advance peace through education, science, and culture. This was to be accomplished by reestablishing schools and other educational and artistic hubs that were destroyed.[2] More recently, UNESCO has emphasized inclusivity, sustainable development, environmental protection, and the ethical use of technology.[3] Currently, there are 194 members and 12 associates. Each member state has one equal vote regardless of size or influence. UNESCO's associate members can participate and propose ideas but do not have voting rights.[4] UNESCO is also well known for its World Heritage Sites program, launched in 1972, which now protects over 1,150 cultural and natural landmarks worldwide, including places like the Great Wall of China and Machu Picchu.[5] With its headquarters in Paris and offices around the world, UNESCO operates as a truly international body.[6] Its democratic structure, where each member state holds one equal vote, highlights its commitment to inclusivity and collective decision-making.

UNESCO member states and associate members meet for the biannual General Conference to determine a budget for the organization. From there, they elect members of leadership for the Executive Board. Every four years, they appoint the Director-General. Alongside them are the observers for non-member states, as well as non-governmental organizations.[7] UNESCO abides by its constitution and regulations from the General Conference in which the Executive Board receives specific tasks. The Executive Board prepares budget and policy recommendations. Further, the Director-General and their staff fall under the Secretariat and Executive Branch of UNESCO.

Over their 80 years, UNESCO has created many guidelines, campaigns, conventions, and declarations. These actions support an understanding of diverse cultures, environmental concerns, and the need for education.[8] Lately, UNESCO adopted the Recommendation on the Ethics of Artificial Intelligence (2021) and the Guidelines for the Governance of Digital Platforms (2023). UNESCO acts through three main powers: conventions, recommendations, and declarations. Through conventions, states commit under international law that becomes binding when passed.[9] Recommendations consist of principles that have authority since they intend to shape other national laws. However, the recommendations are not binding in any way. Instead, member states have to submit them to their competent authorities. Declarations are for establishing long-lasting principles on unique occasions. Declarations are also non-binding.

UNESCO's mandate has restrictions in terms of the law-making process and is limited in their ability to implement and bind agreements, which is why they prioritize action plans such as recommendations and encouragement programs towards international agreements and legislative processes.[10] UNESCO's mission is clear; peace and global understanding can be achieved through education, science, and culture.

1 "UNESCO History and Mission." UNESDOC Digital Library. Accessed August 29, 2025. www.unesdoc.unesco.org/archives/about-unesco-history-and-mission.
2 Mingst, Karen. "UNESCO |Definition, History, Members, & Facts." Britannica. Accessed August 29, 2025. www.britannica.com/topic/UNESCO.
3 "UNESCO. n.d. "75 years of history in the service of peace." UNESCO. Accessed August 29, 2025. www.unesco.org/en/75th-anniversary.
4 UNESCO. n.d. "Member States." UNESCO. Accessed August 29, 2025. www.unesco.org/en/countries.
5 Centre, UNESCO World Heritage. "World Heritage List." UNESCO World Heritage Centre. Accessed August 29, 2025. whc.unesco.org/en/list/.
6 The United Nations. n.d. "UNESCO: United Nations Educational, Scientific and Cultural Organization - Office of the Secretary-General's Envoy on Youth." The United Nations. Accessed August 29, 2025. www.un.org/youthenvoy/2013/08/unesco-united-nations-educational-scientific-and-cultural-organization/.
7 UNESCO. n.d. "UNESCO in key figures." UNESCO. Accessed August 30, 2024. www.unesco.org/en/key-figures.
8 UNESCO. "Key achievements"
9 UNESCO. "UNESCO's standard-setting. An Overview." UNESCO. Last modified June 19, 2024. www.unesco.org/en/legal-affairs/standard-setting/overview.
10 UNESCO. "UNESCO's standard-setting. An overview." UNESCO. Last modified June 19, 2024. www.unesco.org/en/legal-affairs/standard-setting/overview.



The Ethics of Emerging Health Technologies

Photo Credit: NIH Image Gallery

For the third year in a row, global healthcare costs will increase by double digits, with an average rise of 10.4 percent worldwide.[1] Each year, USD 1.8 trillion is spent on health initiatives, but progress remains limited. Since 2015, advances toward universal health coverage have slowed. Today, 4.5 billion people worldwide do not have adequate access to healthcare. This represents over half of the world's population. Many health systems struggle with inefficiency, resource shortage, and overwhelming patient demand.[2] Emerging health technologies may help address these challenges.

Health technologies are products and techniques developed to solve health problems and improve the quality of human life.[3] They include medicines, medical devices, surgical techniques and procedures, and assistive living tools. As technology advances, new tools with the power to transform health have emerged. Questions remain about how these tools can be used to promote human health while avoiding harm.[4] For example, emerging health tools could help expand access to care worldwide, but they might also worsen health disparities if only wealthy or privileged individuals have access to the new technologies.

The concept of equality and equity is often used in debates surrounding emerging health technologies.[5] Equality means giving the same resources to all people and countries, without considering built-in strengths and weaknesses. Equity means providing different levels of help to countries and individuals so that everyone has an equal chance to achieve a desired outcome. For example, in the case of vaccine distribution, providing an equal number of vaccines to all local health clinics would be considered equality. Offering a number of vaccines proportional to population size and free transportation for those living further from clinics would be an equitable approach.

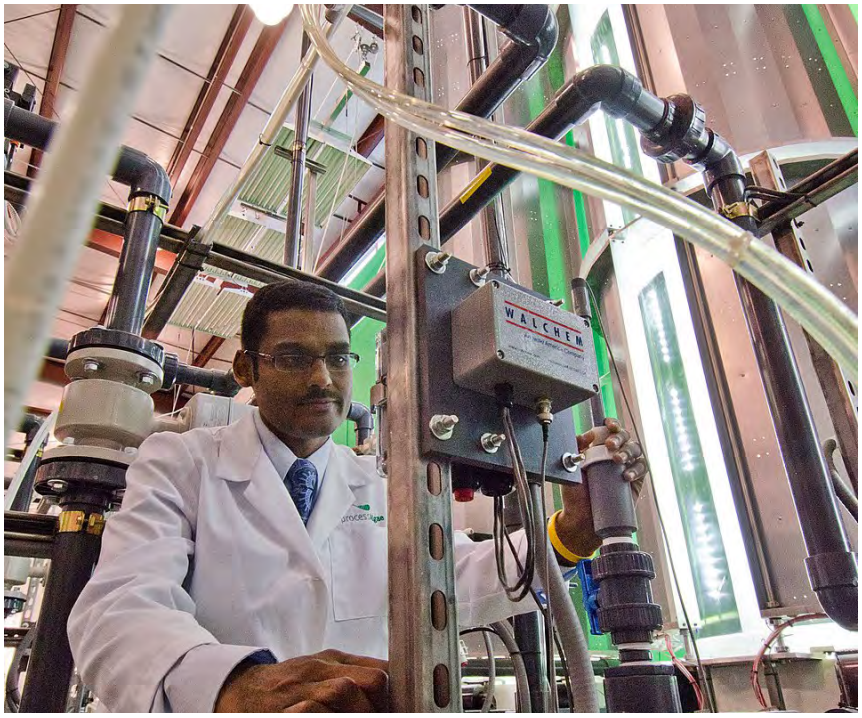
Ethics also guide how health technologies should be used. Ethics are principles that define our idea of what is right versus wrong. Ethics can differ between people and countries, as our definitions of right and wrong are shaped by culture, background, and identity. And so, there is great difficulty in creating universal ethical principles. UNESCO already hosts key bioethics instruments, most notably the 2003 International Declaration on Human Genetic Data and the 2005 Universal Declaration on Bioethics and Human Rights. Thus, delegates can update or extend existing norms rather than start from scratch.

Topic Background

Ethical Dilemmas of Bioengineering

Recently, bioengineering has grown into a major global industry.[6] This field uses engineering to address problems in the life sciences, including agriculture, medicine, and the environment. The global bioeconomy is driven by new advances in bioengineering. Now valued at USD 4 trillion, it is estimated to grow to USD 30 trillion by 2050.[7] However, as the bioengineering sector continues to

1 Mina Abdulla Hamoodi, "How Health Technology Is Transforming Global Healthcare," World Economic Forum, January 14, 2025, www.weforum.org/stories/2025/01/health-technology-global-healthcare/.
2 Hamoodi, "How Health Technology Is Transforming Global Healthcare."
3 "Health Technologies," World Health Organization, November 24, 2023, www.who.int/europe/news-room/fact-sheets/item/health-technologies.
4 "Emerging Technologies," World Health Organization, accessed August 27, 2025, www.who.int/teams/health-ethics-governance/emerging-technologies.
5 Annie E. Casey, "Equity vs. Equality: Differences & Examples," The Annie E. Casey Foundation, November 20, 2023. www.aecf.org/blog/equity-vs-equality.
6 "Bioengineering," Stanford University, accessed August 28, 2025, bioengineering.stanford.edu/.
7 Stefanie Olives, "What Is the Bioeconomy and How Can It Drive Sustainable Development?" *World Economic Forum*, July 12, 2024, www.weforum.org/stories/2024/07/bioeconomy-sustainable-development/; *The Global Bioeconomy* (São Paolo: NatureFinance, 2024), www.



Algae is bioengineered for use in animal feeds, pharmaceutical and beauty products (Credit: Lance Cheung)

grow, questions of ethical use must also be addressed.

Genetic engineering, also called genetic modification, is a part of bioengineering.[8] It involves using laboratory tools to change an organism's DNA. DNA is the genetic code found in all living things. It controls how organisms grow and function. Differences in DNA explain why organisms vary, such as why animals differ from plants or why people have different eye colors. Genetic engineering seeks to alter DNA to give an organism traits that are more useful or desirable.[9]

Today, the most common use of genetic engineering is in agriculture. Crops are modified to improve yields, resist pests, and provide better nutrition.[10] These are known as genetically modified organisms, or GMOs. GMOs have been used to help fight malnutrition in many developing countries. Malnutrition is a serious health problem caused by an individual not getting enough food or nutrients.[11] It can lead to delayed growth, obesity, and many other life-threatening diseases. For example, many soybeans are altered to have an increased omega-3 fatty acid content, which is an essential nutrient. In areas affected by climate change, climate-resilient GMOs help farmers grow food with less water and land. Despite the public health benefits of GMOs, their use also raises concerns. Many people do not have enough information to make informed choices about eating them. There is also limited research on their long-term health effects. Some fear that GMOs could harm the environment by replacing native crops and reducing biodiversity. For these reasons, delegates must consider how, and if, consumers should be protected when it comes to GMO use.

Many applications of genetic engineering involve animals and humans. These uses are often more controversial than those in plants. In animals, genetic engineering is sometimes used to produce medicine for people.[12] For example, goats have been modified to produce antithrombin, a drug that helps prevent heart attacks and strokes. Similarly, all insulin used in medicine today is made using genetically engineered bacteria. These practices raise ethical questions about whether it is right

naturefinance.net/resources-tools/global-bioeconomy-g20-stocktake/.
8 "Genetic Engineering," National Human Genome Research Institute, last updated August 28, 2025, www.genome.gov/genetics-glossary/Genetic-Engineering.
9 Khara Grieger et al., *Let's Talk About Genetic Engineering: A Guide to Understanding Genetic Engineering and its Applications in Food, Agriculture, and the Environment* (Raleigh: North Carolina State University, 2024), content.ces.ncsu.edu/show_ep3_pdf/1756440178/25591/.
10 Grieger et al., *Let's Talk About Genetic Engineering."*
11 "Malnutrition," World Health Organization, May 7, 2025, www.who.int/news-room/questions-and-answers/item/malnutrition.
12 "What is genetic engineering?" *Your Genome*, Wellcome Connecting Science, accessed August 28, 2025, www.yourgenome.org/theme/what-is-genetic-engineering/.

to alter living organisms simply to serve as "factories" for human medicine.[13]

In research, animals can also be engineered to study disease. Scientists may turn certain genes on or off to understand the gene's role in diseases and guide therapeutic strategies.[14] For example, to understand how a gene affects cancer growth, scientists may create an animal that lacks that gene, and then they might study how cancer grows in the animal without it. While these studies can guide therapies to benefit humans, they raise serious ethical concerns about animal welfare. Animals are also used as test subjects. Scientists may test their ideas on animals without fully understanding the effects of the genetic changes.[15] As a result, many animals endure side effects such as physical impairments, stress, and reduced fertility. Many also do not survive the process of being genetically engineered. Of those that do, fewer than one-third may even carry the intended genetic change. Some argue that using such large numbers of animals in this way goes against the ethical idea of limiting suffering and only allowing harm when the possible benefits are high.

Genetic engineering on humans is the most ethically sensitive and least common practice. It can involve changes to the somatic cells, or cells of the body (non-sex cells). This would create non-heritable changes, which cannot be passed down. Editing the germline cells (sex cells) can create heritable changes.[16] Somatic editing is more widely accepted and has been used since 1990 to treat serious genetic disorders, such as HIV and sickle-cell disease.[17] It is also used as a treatment called gene therapy. For example, a patient's own immune system cells can be engineered to attack cancer cells.[18]

Germline gene editing can be used to prevent disease, but it can also be applied to select "desirable" traits in offspring, such as sex, physical features, abilities, or overall health.[19] This possibility has led to the idea of so-called "designer babies." The scientific and safety concerns are significant, since the technology is still new and its long-term effects are unknown. One major risk is off-target effects, where editing one gene unintentionally alters another.[20]

The ethical dilemmas raised by germline editing are pressing. Unlike somatic mutations, which occur after birth, germline mutations happen during pregnancy while the baby is still in the womb.[21] This raises the question of consent, since changes are chosen by the parents rather than by the individual. It also raises concerns about whether such practices could reduce humans to objects that can be designed and customized, potentially undermining one's sense of self and individuality. Others argue that designer babies could lead to discrimination, inequality, and, at worst, eugenics.[22] Eugenics is the false idea that the human race can be improved through selective breeding to increase certain traits in the population.[23] Historically, it was used to justify forced sterilizations and even genocide, most horrifically during the Holocaust.[24] If

13 Alyssa Robinson, "Insulin and Animal Welfare," North Carolina State University, September 7, 2020, www.lib.ncsu.edu/news/special-collections/insulin-and-animal-welfare.
14 Welcome Connecting Science, "What is genetic engineering?" ; Si-Wei Wang et al., "Current Applications and Future Perspective of CRISPR/Cas9 Gene Editing in Cancer," *Molecular Cancer* 21, no. 1 (2022), doi.org/10.1186/s12943-022-01518-8.
15 Elisabeth H. Ormandy, Julie Dale, and Gilly Griffin, "Genetic Engineering of Animals: Ethical Issues, Including Welfare Concerns," *The Canadian Veterinary Journal* 52, no. 5 (May 2011): 544, pmc.ncbi.nlm.nih.gov/articles/PMC3078015/.
16 "Human Genome Editing," World Health Organization, accessed August 28, 2025, www.who.int/health-topics/human-genome-editing#tab=tab_1.
17 World Health Organization, "Human Genome Editing;" "Socio-ethics of genetic engineering," EBSCO Information Services, 2024, www.ebsco.com/research-starters/health-and-medicine/socio-ethics-genetic-engineering.
18 Viktoriya Sus, "Genetic Engineering: Is It Ethical?" *TheCollector*, December 10, 2022, www.thecollector.com/pros-and-cons-genetic-engineering/; "Gene Therapy," *Mayo Clinic*, Mayo Foundation for Medical Education and Research, accessed August 28, 2025, www.mayoclinic.org/tests-procedures/gene-therapy/about/pac-20384619.
19 Shravishtha Ajaykumar, *The Ethical and Security Implications of Genetic Engineering* (New Delhi: Observer Research Foundation, 2024), www.orfonline.org/public/uploads/posts/pdf/20240804191214.pdf.
20 "What Are the Ethical Concerns of Genome Editing?," National Human Genome Research Institute, 2019, www.genome.gov/about-genomics/policy-issues/Genome-Editing/ethical-concerns.
21 EBSCO Information Services, "Socio-ethics of genetic engineering."
22 Shravishtha Ajaykumar, "The Ethical and Security Implications of Genetic Engineering."
23 "Eugenics and Scientific Racism," National Human Genome Research Institute, last updated May 18, 2022, www.genome.gov/about-genomics/fact-sheets/Eugenics-and-Scientific-Racism.
24 National Human Genome Research Institute, "Eugenics and Scientific Racism."

prospective parents today were to keep selecting for traits deemed desirable, then other traits may become "inferior." Therefore, wealthy people could access gene-editing tools and select "superior" traits, making social divisions worse. In less extreme cases, genetic data could shape one's access to health insurance and care, with insurers adjusting coverage based on a person's genetically predicted risk of disease.

Some of the strongest opposition to germline editing comes from religious groups. Scholars in Christianity, Judaism, and Islam generally agree that it goes against their beliefs. Exceptions are met when it is used to treat, cure, or prevent disease.[25] Delegates representing highly religious countries should keep in mind how religious values may shape their policies on genetic engineering and bioengineering. Alternatively, supporters of germline editing see it as part of humanity's long history of self-improvement. Humans invented cars to enhance physical movement and computers to expand our mental capacity. Thus, gene editing is seen by some as the next step in a natural progression.

In fertility clinics, preimplantation genetic diagnosis (PGD) is already common.[26] PGD lets parents select embryos without genetic diseases. In some cases, it also allows sex selection. Because unassisted reproduction usually leaves these traits to chance, many argue that PGD already is the first step toward "designer babies." Some say that since humans already do a form of germline editing, it is not radical. It is just a natural extension of existing choices.

It also raises concerns about whether such practices could reduce humans to objects that can be designed and customized, potentially undermining one's sense of self and individuality.

Genetic engineering is only one part of bioengineering. Another is synthetic biology, which redesigns organisms for useful purposes.[27] The earlier example of producing insulin in bacteria is one case.[28] Another well-known example is the Impossible Burger, a plant-based meat alternative.[29] Synthetic biology raises concerns under the idea of dual-use research of concern (DURC). This type of research is meant to benefit society but could cause harm if misapplied.[30] DURC is an ethical issue across many fields of research.[31] In synthetic biology, scientists have developed aerosol methods that deliver medicine deeper into the lungs. This technology has helped asthma patients. The same method, however, could also be used to make aerosol biological weapons more deadly, such as anthrax.

Sharing scientific research is central to human progress. It builds accountability, fosters teamwork, and expands knowledge.[32] Still, DURC poses a dilemma for how scientists can share discoveries in

25 F. Rosner, "Judaism, Genetic Screening and Genetic Therapy," *The Mount Sinai Journal of Medicine, New York* 65, no. 5-6 (1998): 406-413, pubmed.ncbi.nlm.nih.gov/9844372/; Sayyed Mohamed Muhsin and Alexis Heng Boon Chin, "Ethics of Germline Genome Editing to Prevent Genetic Diseases from an Islamic Perspective," *Progress Educational Trust*, February 12, 2024, www.progress.org.uk/ethics-of-germline-genome-editing-to-prevent-genetic-diseases-from-an-islamic-perspective/; Isabel Woodruff, "Genetic Enhancement in Light of Christian Theology," *Dignitas* 28, no. 3-4 (2021): 12-18, www.cbhd.org/dignitas-articles/genetic-enhancement-in-light-of-christian-theology.
26 Sus, "Genetic Engineering: Is It Ethical?"
27 "Synthetic Biology," National Human Genome Research Institute, 2019, www.genome.gov/about-genomics/policy-issues/Synthetic-Biology.
28 National Human Genome Research Institute, "Synthetic Biology."
29 "Synthetic Biology 101," Center for Synthetic Biology, accessed August 28, 2025, syntheticbiology.northwestern.edu/about-us/synthetic-biology-101/.
30 "What Is Dual-Use Research of Concern?" World Health Organization, December 13, 2020, www.who.int/news-room/questions-and-answers/item/what-is-dual-use-research-of-concern.
31 Allen Buchanan and Russell Powell, "The Ethics of Synthetic Biology: Suggestions for a Comprehensive Approach," Georgetown University, accessed August 28, 2025, bioethicsarchive.georgetown.edu/pcsbi/sites/default/files/The-Ethics-of-Synthetic-Biology-Suggestions-for-a-Comprehensive-Approach.pdf.
32 Karen Louis, Lisa Jones, and Eric Campbell, "Sharing in Science," American Scientist, accessed August 28, 2025, www.americanscientist.org/article/sharing-in-science.

a way that helps society without giving bad actors tools to cause harm.

Clinical Translation and Implications

Recent advances in technology have changed how health professionals provide care, work with patients, and learn about medicine. These changes include clinical trials to test new treatments, experimental procedures like organ transplants from animals, and digital tools such as telehealth to expand access. Much of modern bioengineering aims to improve human health and reduce disease. Before new technologies are approved for treatment, most countries require a strict review to ensure safety. While steps differ by country, nearly all require clinical trials.[33]

Clinical trials test new treatments on volunteers. The goal is to check if a treatment is broadly safe and effective for humans.[34] Often, volunteers are extremely ill and have no other treatment options.[35] While clinical trials can bring hope in desperate situations, they raise important ethical questions about how they are designed and carried out.

Informed consent means that before joining a medical study, people must understand what the study is for, what will happen to them, and what the possible risks are. They can only agree, or "give consent," when they have all the important information.[36] One famous case related to informed consent is that of Jesse Gelsinger in 1999. Jesse was 18 years old and had a rare genetic disorder called ornithine transcarbamoylase (OTC) deficiency.[37] This condition makes it hard for the body to remove certain waste products. Most babies born with it die very young.[38]

Jesse's case was milder, and he was living a fairly normal life. He volunteered to take part in a medical trial that tested a new kind of gene therapy meant to fix the faulty gene causing his illness. He hoped his participation would help others with the same condition. But four days after receiving the treatment, Jesse had a severe reaction to it and passed away. Investigations later found that earlier trial data showing concerning immune reactions had not been fully communicated to participants, highlighting major ethical lapses in informed consent. His family argued that if he had known all the risks, he might not have agreed to take part. The researchers, on the other hand, said they worried that giving too many details could make volunteers afraid and affect how the trial went. This case led to stronger rules about informed consent in research.

Another concern in medical ethics is coercion. Very ill patients may feel as if they have no other option except to consent, or some may feel pressured to agree with their doctor's request for participation.[39] However, coercive consent is not true consent. It violates the principle of autonomy. Additionally, some physicians and researchers may have a financial stake in the success of their clinical trials. They could profit by selling the treatment to patients or pharmaceutical companies.[40] This creates a conflict of interest that might influence decisions within the clinical trial. Delegates should carefully consider how to regulate clinical trials in a way that protects both patient safety and individual choice.

A new treatment currently in clinical trials is xenotransplantation,

33 Peter Corr and David Williams, *Conflict of Interest in Medical Research, Education, and Practice*, Appendix E, (Washington, D.C.: National Academies Press (US), 2009), www.ncbi.nlm.nih.gov/books/NBK22930/.
34 "Clinical Trials," World Health Organization, accessed August 28, 2025, www.who.int/health-topics/clinical-trials#tab=tab_1.
35 Eline M. Bunnik, Dide de Jongh, and Emma Massey, "Ethics of Early Clinical Trials of Bio-Artificial Organs," *Transplant International* 35 (2022), doi.org/10.3389/ti.2022.10621.
36 Bunnik, de Jongh, and Massey, "Ethics of Early Clinical Trials of Bio-Artificial Organs;" Barbara Sibbald, "Death but One Unintended Consequence of Gene-Therapy Trial," *Canadian Medical Association Journal* 164, no. 11 (2001): 1612, pmc.ncbi.nlm.nih.gov/articles/PMC81135/.
37 Sibbald, "Death but One Unintended Consequence of Gene-Therapy Trial."
38 Medlineplus.gov, "Ornithine Transcarbamylase Deficiency: MedlinePlus Genetics," 2017, medlineplus.gov/genetics/condition/ornithine-transcarbamylase-deficiency/.
39 David Wendler and Alan Wertheimer, "Why Is Coerced Consent Worse than No Consent and Deceived Consent?" *The Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine* 42, no. 2 (2017): 114-131, doi.org/10.1093/jmp/jhw064.
40 "Gene Therapy Research & the Case of Jesse Gelsinger," *NYU Langone Health*, NYU Grossman School of Medicine, accessed August 28, 2025, med.nyu.edu/departments-institutes/population-health/divisions-sections-centers/medical-ethics/education/high-school-bioethics-project/learning-scenarios/jesse-gelsinger-case.

A surgeon at the Columbia Hernia Center operates on a patient with a large hernia using the robotic platform (Credit: Surgeryizer)

or transplanting animal cells, tissues, or organs into humans.[41] In 2024, a genetically modified pig kidney was successfully transplanted for the first time into a 62-year-old man with chronic kidney disease.[42] A pig kidney was chosen, as xenotransplantation could help solve the global organ shortage. It could also improve access to organ transplants for low-income patients or those without a match.[43] However, ethical concerns about the safety of animals remain. These animals would need to be raised in confined, sterile labs.[44] This removes their social interaction that could improve their quality of life.

Recent technological advances have also made telehealth more accessible and popular.[45] Telehealth uses digital tools like messaging and video calls to allow people to access health care services from a distance. However, as of 2024, only 68 percent of people worldwide had internet access.[46] While telehealth cannot reach everyone, it has helped expand healthcare access, especially in developing countries, rural areas, and conflict zones. It also helps fill shortages by connecting patients to doctors across various regions.

However, some worry that providers may not be able to offer the same quality or ethical healthcare through telehealth. Compared to in-person visits, providers using telehealth may have a less complete understanding of their patients' situation and symptoms. This can lead to unnecessary treatments, wrong prescriptions, or bigger gaps in care.[47] Thus, when considering the adoption and promotion of telehealth, countries must decide whether to prioritize convenience and accessibility or quality of care.

Health Technology & Emergencies

Epidemiology is the study of factors affecting human health and disease.[48] New methods and technologies, called digital epidemiology, have changed this field. These tools help track and understand diseases more

41 "What is xenotransplantation, and how far away is it?" *UNOS*, February 19, 2025, unos.org/news/what-is-xenotransplantation-and-how-far-away-is-it/.
42 "In a First, Genetically Edited Pig Kidney Is Transplanted into Human," *Harvard Medical School*, The President and Fellows of Harvard College, March 21, 2024. hms.harvard.edu/news/first-genetically-edited-pig-kidney-transplanted-human.
43 "In a First, Genetically Edited Pig Kidney Is Transplanted into Human."
44 Bernard E Rollin, "Ethical and Societal Issues Occasioned by Xenotransplantation," *Animals* 10, no. 9 (2020): 1695, doi.org/10.3390/ani10091695.
45 "Telehealth: Technology meets health care," *Mayo Clinic*, Mayo Foundation for Medical Education and Research, September 5, 2024, www.mayoclinic.org/healthy-lifestyle/consumer-health/in-depth/telehealth/art-20044878.
46 "Individuals using the Internet (% of population)," World Bank Group, accessed August 28, 2025, data.worldbank.org/indicator/IT.NET.USER.ZS.
47 Mayo Foundation for Medical Education and Research, "Telehealth: Technology meets health care."
48 "What Is Epidemiology?," National Institute on Deafness and Other Communication Disorders, last updated September 13, 2011, www.nidcd.nih.gov/health/statistics/what-epidemiology.

effectively.[49] For example, some systems monitor flu or COVID-19 outbreaks by tracking keywords on social media.[50] The data that is collected and used comes from many sources. Examples include cell phone locations, video surveillance, social media posts, internet searches, news reports, and crowdsourced information.[51] As digital epidemiology grows, it raises important concerns about privacy.

Applying the four pillars of medical ethics helps us better understand the challenges. Respect for autonomy means people should control their personal data, including what is collected and how it is used. Non-maleficence means avoiding harm to individuals and communities. This can be done by protecting privacy and preventing the misuse of data.[52] Beneficence focuses on increasing the benefits of digital epidemiology, like better public health and improved well-being. Justice ensures no group is unfairly helped or harmed by such tools.[53] These pillars guide the debate about whether digital epidemiology is ethical. Some argue it is too intrusive and unevenly applied across different groups in society. However, supporters believe that if data can help prevent disease and save lives, it is ethical to use it for that purpose.

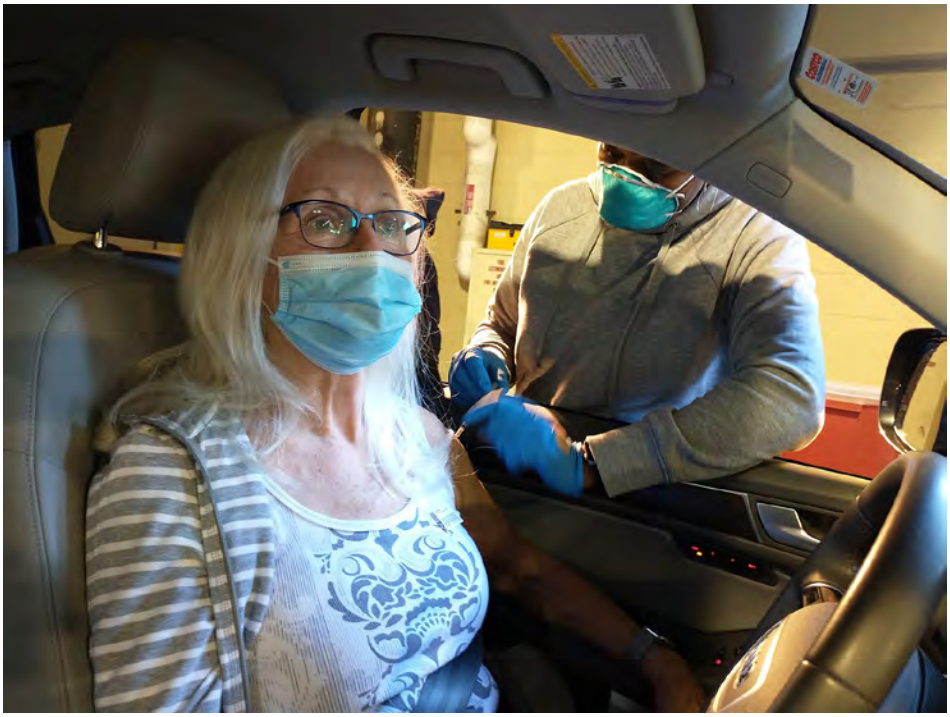
The COVID-19 pandemic is an example of digital epidemiology. COVID-19 was a major health crisis that lasted from March 2020 to May 2023. It had 750 million cases and over 7 million deaths worldwide.[54] Many countries used surveillance and contact tracing to slow the spread. Contact tracing is a surveillance method used to identify, assess, and manage people who were near infected individuals. However, contact tracing looked different from country to country. In China, citizens had to download a contact tracing app. The app combined personal health data with facial-recognition software to track the contact with infected persons and assess disease risk. A person's risk level would then determine how freely they could leave their home and move within communities. Although highly effective, the system drew public criticism due to a lack of data transparency.[55]

In Israel and South Korea, the government used geolocation data to identify people who had been near infected individuals and had them quarantined. These data were collected without people's consent.[56] In the United States, private companies helped develop a contact-tracing tool.[57] This raised questions of what role the private sector should play in public health efforts, since they are not bound by the same concerns of transparency and public accountability as governments are. Delegates must consider whether these approaches violate privacy or civil liberties and whether and when they are ethical.

The widespread use of digital epidemiology technologies excluded vulnerable groups, such as older adults and low-income communities. These groups often lacked the necessary technologies for contact tracing, like smartphones. As a result, the infections in these groups were undercounted, which led to fewer resources being directed to the areas that needed them.

The development of COVID-19 vaccines also raised concerns regarding emergency use authorization of medicines. Emergency use authorization (EUA) is not a new concept. For decades, it has allowed new medicines to reach the public faster in urgent

49 Sarah Lee, "The Ethics of Digital Epidemiology," Numberanalytics.com, May 5, 2025, www.numberanalytics.com/blog/ethics-digital-epidemiology-public-health.
50 Deema Ibrahim Fallatah and Hafeez Aderinsayo Adekola, "Digital epidemiology: harnessing big data for early detection and monitoring of viral outbreaks," *Infection Prevention in Practice* 6, no. 3 (September 2024), doi.org/10.1016/j.infpip.2024.100382.
51 "Ethics and Governance of Digital Epidemiology," Stanford University, May 11, 2020, healthpolicy.fsi.stanford.edu/news/ethics-and-governance-digital-epidemiology.
52 Allison E. Aiello, Audrey Renson, and Paul N. Zivich, "Social Media- and Internet-Based Disease Surveillance for Public Health," *Annual Review of Public Health* 41, no. 1 (2020): 101-118, doi.org/10.1146/annurev-publhealth-040119-094402; Lee, "The Ethics of Digital Epidemiology."
53 Lee, "The Ethics of Digital Epidemiology."
54 "COVID-19 Cases, World," World Health Organization, last updated August 9, 2025, data.who.int/dashboards/covid19/cases?n=o.
55 Stanford University, "Ethics and Governance of Digital Epidemiology."
56 Stanford University, "Ethics and Governance of Digital Epidemiology."
57 Alex Dubov and Steven Shoptawb. "The Value and Ethics of Using Technology to Contain the COVID-19 Epidemic," *The American Journal of Bioethics* 20, no. 7 (May 18, 2020): W7-W11, doi.org/10.1080/15265161.2020.1764136.



A woman receives the COVID-19 vaccine at the Orange County Convention Center in Orlando, Florida (Credit: Whoisjohngalt)

situations.[58] Through national or regional bodies, nearly all medicines must undergo an extensive approval process before reaching consumers. For instance, in the United States, drug approval can take 10 to 15 years.[59] But in emergencies, many countries or regions have faster review processes. This process has been previously used for flu vaccines, Ebola treatments, and, most recently, COVID-19 vaccines.[60]

Because of the shortened timeline, EUA is less thorough than the standard drug approval process.[61] Often, the benefits are expected to outweigh the potential harm, and emergency authorization can limit illness and death. However, there have been examples where this approach caused harm. In March 2020, the United States Food and Drug Administration (FDA) issued an EUA for chloroquine and hydroxychloroquine for treating COVID-19 in hospitalized patients.[62] The decision came amid intense public and political pressure, including strong promotion by then-President Donald Trump, and was based on limited and low-quality early data suggesting possible antiviral effects. However, later clinical trials showed that the drugs did not help COVID-19 patients recover faster or prevent infection, and in some cases caused serious side effects, such as heart rhythm problems. As stronger evidence emerged, the FDA revoked the authorization in June 2020. By then, many patients had already been treated with the drugs, illustrating how acting on weak evidence in a public health emergency can lead to harm and confusion.

Some argue that the idea of EUA is unethical because there may be no clear or fair way to decide which diseases count as emergencies.[63] Many serious illnesses, such as malaria and tuberculosis, were never labeled as emergencies since they are constant threats usually concentrated in lower-income areas. Thus, treatments for these deadly diseases go through the full, lengthy approval process while people continue to suffer. Delegates thus must consider how to decide when EUA is ethical and should consider a set of established criteria to classify emergencies. Beyond national EUAs, the WHO's Emergency Use Listing (EUL) offers a global pathway. Aligning national fast-track rules with the EUL can help avoid repeated reviews and speed up access to safe vaccines.

58 Mamta Bishnoi and Aniket Sonker, "Emergency Use Authorization of Medicines: History and Ethical Dilemma," *Perspectives in Clinical Research* 14, no. 2 (April 2023): 49-55, doi.org/10.4103/picr.picr_149_22.
59 Bishnoi and Sonker, "Emergency Use Authorization of Medicines: History and Ethical Dilemma."
60 Mathew Mercuri et al., "Expediting Approval for Medical Countermeasures to Address High Burden Disease: An Ethical Justification to Move beyond Emergency Use Authorisation," *BMJ Global Health* 8, no. 11 (2023), doi.org/10.1136/bmjgh-2023-013480.
61 Krishnan V. Chary and Kumaresh Pandian, "Accelerated Approval of Drugs: Ethics versus Efficacy," *Indian Journal of Medical Ethics* 2, no. 4 (2016): 244-247, pubmed.ncbi.nlm.nih.gov/28661403/.
62 Beatrice Brown, "Ethics of Emergency Use Authorization During the Pandemic," *The Hastings Center for Bioethics*, October 30, 2020, www.thehastingscenter.org/ethics-of-emergency-use-authorization-during-the-pandemic/.
63 Mercuri et al., "Expediting Approval for Medical Countermeasures to Address High Burden Disease."

A final major ethical concern in emergencies is how to fairly distribute scarce, lifesaving resources. This issue became clear during the COVID-19 pandemic with vaccine access, but it has occurred throughout history. This dilemma appeared with penicillin in World War II and dialysis technology in the 1960s. In many of these cases, developed countries hoard large amounts of the needed resource, leaving developing countries with limited access.[64] One must consider how to balance national interests with the ethical goal of distributive justice. It also invites discussion about how international organizations should play in guiding global resource sharing.

Privacy & Data Security

Concerns about privacy and data security are related to nearly all digital health technologies. Part of the issue is that people do not know how much of their data is collected, how it is stored, and how it is accessed and used.[65] Recently, progress has been made to improve accountability and transparency.[66] For example, many digital health applications now require an opt-in, rather than an opt-out, to agree on terms and conditions for data privacy. Still, many people do not fully understand what they have agreed to because these terms are often long and difficult to read.[67] This highlights the need to better educate individuals on the importance of data security and making informed choices about data.

A common example that illustrates these concerns is wearable digital health technologies. These "wearables" range from fitness devices such as Apple Watches, Fitbits, and Whoop to clinical devices, such as continuous glucose monitors and blood pressure sensors. Smartphones can also act as wearables when certain apps that track movement and activity are downloaded. In 2023, the market for wearables was valued at over USD 71 billion.[68]

Buying a wearable or installing a health app usually means that someone (consciously or unconsciously) is agreeing to the company's data collection and usage practices. However, the real-time collection of sensitive data raises privacy concerns.[69] This data storage can be less than secure. Most companies store their users' health data on the cloud, a network of remote data storage servers.[70] Depending on the strength of their cloud security, data can be exposed during breaches and hacks. Many companies also make money by selling users' data to third-party groups for advertising or research. Whether users truly agree to this is unclear, since they often consent to data use by the company, but not its sale. These privacy concerns have serious real-life effects as well. In 2018, the popular fitness app Strava accidentally revealed the locations of military bases and personnel by sharing users' running paths.[71] In 2021, a security breach of Apple and Fitbit exposed the sensitive health data of over 61 million users.[72]

Some people have questioned whether the wearable industry as a whole is ethical. If used in harmful ways, wearables could lead to discrimination or excessive surveillance of certain populations. For example, if people with chronic illnesses or disabilities are required to wear these devices, others could track their movements and health without their consent, which

64 Keymanthri Moodley, "Vaccine Inequity Is Unethical," *Nature Human Behaviour* 6, no. 2 (January 31, 2022): 168-169, doi.org/10.1038/s41562-022-01295-w.
65 C. L. V. Sivakumar, Varda Mone, and Rakhmanov Abdumukhtor, "Addressing Privacy Concerns with Wearable Health Monitoring Technology," *WIREs Data Mining and Knowledge Discovery* 14, no. 3 (2024), doi.org/10.1002/widm.1535.
66 Jason Peres da Silva, "Privacy Data Ethics of Wearable Digital Health Technology," *Center for Digital Health*, Brown University, May 4, 2023, cdh.brown.edu/news/2023-05-04/ethics-wearables.
67 Anna Sui et al., "Ethical Considerations for the Use of Consumer Wearables in Health Research," *Digital Health* 9 (January 2023), doi.org/10.1177/20552076231153740.
68 Anna Spuskanyuk, "Ethical Implications of Wearable Digital Health Technology: Balancing Innovation and Patient Autonomy," *American Journal of Healthcare Strategy* 1, no. 2 (February 2024): 46-57, doi.org/10.61449/ajhcs.2024.7.
69 Sivakumar, Mone, and Abdumukhtor, "Addressing Privacy Concerns with Wearable Health Monitoring Technology."
70 "What Is the Cloud?," Microsoft, accessed August 28, 2025, azure.microsoft.com/en-us/resources/cloud-computing-dictionary/what-is-the-cloud.
71 da Silva, "Privacy Data Ethics of Wearable Digital Health Technology."
72 Sui et al., "Ethical Considerations for the Use of Consumer Wearables in Health Research."

could become a form of control or abuse.[73]

Global use of electronic health records (EHRs) has also grown significantly in the past decade. EHRs are digital versions of patient records. They store details like identification, medical history, and current diagnoses and treatments. EHRs can improve healthcare efficiency, reduce paperwork, cut costs, and allow communication between doctors.[74] For these reasons, developed and developing countries have widely adopted them.[75] But EHRs also come with privacy risks. They contain more sensitive and identifiable data than most technologies.

EHRs have thus become a popular target of cyberattacks. In these attacks, hackers break into an EHR system and hold the data for "ransom," threatening to release the data if the hospital does not pay them. In 2023 alone, 725 hospital data breaches were reported, representing 133 million medical records.[76] Such cyberattacks are an issue worldwide, with EHR data breaches reported in every geographic region.[77] Individuals are well aware of these risks as well, with a recent survey showing that less than half of respondents felt their health data were "safe and secure."[78] Such worries are also indicative of how poor health data practices can cause generalized mistrust between patients and providers.[79] Another issue is that EHRs are susceptible to system malfunctions and internet blackouts, creating deadly situations where physicians cannot access their patients' records if a system is down.[80]

In general, protecting data privacy and security in health technologies faces many challenges. Globally, there are different definitions of what counts as sensitive data. There is also a lack of shared rules for how to handle it, which leads to inconsistencies in how data is treated. For example, UNESCO defines personal data as "any information that directly or indirectly identifies an individual, emphasizing the secure collection, usage, storage, and transfer of such data."[81] But this definition has become too broad to apply effectively in practice as more types of data are continually collected and linking data becomes more advanced.

Equitable Access

As health technologies improve, the United Nations strives for all countries and people to have fair access. Historically, technological development often ignored this, leaving developing countries with little access to new technologies at reasonable prices.[82] About 80 percent of the world's population lives in low- and middle-income countries, making this a serious issue today. Many barriers exist in ensuring equal access.

A patent is a legal right given to an inventor of a product or technology. It allows that inventor to produce and sell their product exclusively for a set period of time.[83] Patents encourage innovation by ensuring inventors can profit from their work.[84] They create a temporary monopoly, which prevents others from copying

73 Mone, and Shakhlo, "Health Data on the Go: Navigating Privacy Concerns with Wearable Technologies."
74 Basil et al., "Health Records Database and Inherent Security Concerns: A Review of the Literature."
75 Ismail Keshta and Ammar Odeh, "Security and Privacy of Electronic Health Records: Concerns and Challenges," *Egyptian Informatics Journal* 22, no. 2 (July 2021): 177-183, doi.org/10.1016/j.eij.2020.07.003.
76 Steve Alder, "Healthcare Data Breach Statistics," *The HIPAA Journal*, last updated August 27, 2025, www.hipaajournal.com/healthcare-data-breach-statistics/.
77 Andrew Kweku Conduah, Sebastian Ofoe, and Dorothy Siaw-Marfo, "Data privacy in healthcare: Global challenges and solutions," *Digital Health* 11 (June 2025), doi.org/10.1177/20552076251343959.
78 Ismail Keshta and Ammar Odeh, "Security and Privacy of Electronic Health Records: Concerns and Challenges," *Egyptian Informatics Journal* 22, no. 2 (July 2021): 177-183, doi.org/10.1016/j.eij.2020.07.003.
79 "A Guide to Balancing Medical Technological Advancement and Privacy Concerns," Michigan Instruments, March 26, 2024, www.michiganinstruments.com/2024/03/medical-technological-and-data-security-in-healthcare/.
80 Basil et al., "Health Records Database and Inherent Security Concerns: A Review of the Literature."
81 Conduah, Ofoe, and Siaw-Marfo, "Data Privacy in Healthcare: Global Challenges and Solutions."
82 Jayasree K. Iyer, "Equitable Access to Medicines Can Drive Sustainable Returns," *World Economic Forum*, November 19, 2024, www.weforum.org/stories/2024/11/equitable-access-medicines-pharma-sustainable/.
83 "Patents – Learn the Basics Inventing the Next Big Thing. Learn Why Patents Matter," Government of Canada, last modified October 1, 2024, ised-isde.canada.ca/site/canadian-intellectual-property-office/en/patents-learn-basics-inventing-next-big-thing-learn-why-patents-matter.
84 Bao Tran, "Patent Considerations For Medical Device Ethical Considerations," *PatentPC*, August 5, 2025, patentpc.com/blog/patent-considerations-for-medical-device-ethical-considerations.

the invention. However, patents can also limit consumer access. Companies decide who makes and sells a technology and what price consumers must pay for it. This restricts access to new technologies for low-income individuals and countries. And so, this creates an ethical issue where protecting inventors can then come at the cost of affordable and equitable access to life-saving technologies.

During the COVID-19 pandemic, most COVID-19 vaccines were patented.[85] This led to high prices and supply shortages, which hurt developing countries the most. Scholars argue that keeping the vaccine patents violated the principle of beneficence by preventing more vaccine production and the principle of non-maleficence by discouraging future vaccine innovation by threatening patent infringement lawsuits. A useful comparison is the case of the polio vaccine in the 1950s. Dr. Jonas Salk chose not to patent the polio vaccine so that it could be produced freely around the world. This decision helped eradicate polio in many regions and is often cited as an example of science serving humanity before profit.

On the other hand, other scholars believe waiving the patents could be harmful by discouraging future innovation by eliminating the profit incentive. They also argue it could create competition for limited raw materials, which would still favor access for developed countries.

A child receives an oral polio vaccination (Credit: US CDC)

Another accessibility barrier is the location of supply chains. Many health technologies and medicines are produced in wealthier countries.[86] Thus, transport costs increase overall cost and subsequently decrease the local availability for developing countries, as they must import these technologies. Supply chains also often have a limited capacity and cannot always produce enough products to meet the global demand.[87] Ultimately, because developed countries have more economic capital to purchase products, they are the ones with the most access to these life-saving health technologies.

Recently, many companies have been trying to expand and diversify their supply chains to allow developing countries greater access to health technologies. The Center for Vaccine Development strives to produce vaccines at an affordable cost for developing countries. After developing the vaccine at their labs in the United States, the center outsources production to facilities in India and Indonesia. They also train scientists in developing countries on the technical skills needed to produce vaccines. This has allowed the production of 100 million vaccine doses for around three US dollars per dose.[88]

85 Robby Brock, "Is it Ethical to Uphold Vaccine Patents during a Global Shortage?" *Santa Clara University*, May 19, 2021, www.scu.edu/ethics/healthcare-ethics-blog/is-it-ethical-to-uphold-vaccine-patents-during-a-global-shortage/.
86 Iyer, "Equitable Access to Medicines Can Drive Sustainable Returns."
87 Barry S. Coller, "Embedding a Commitment to Equitable Global Access into Basic and Early-Phase Translational Research," *Journal of Clinical and Translational Science* 9, no. 1 (2025), doi.org/10.1017/cts.2024.691.
88 Coller, "Embedding a Commitment to Equitable Global Access into Basic and Early-Phase Translational Research."

Additionally, the center published open-access papers detailing the steps in the vaccine development process. This allows other manufacturers to easily reproduce the vaccine. Even so, this approach faced challenges. For instance, manufacturing has been limited because many developing countries have strict regulations that slow the approval process. It is also more difficult for vaccines manufactured outside the United States and Europe to gain regulatory approval in these regions, largely because of differing regulatory standards and limited mutual recognition agreements. Even when vaccines meet global safety standards, US and European authorities often require separate approval processes.

Access models such as technology transfers and non-exclusive voluntary licensing agreements have become increasingly popular as a tool to solve access issues in developing countries. Such models allow manufacturers to produce patented products and sell them in specified developing countries. This approach not only benefits developing countries, but studies have shown these agreements could increase revenue and facilitate market expansion for health technology companies too. Subscribing to health-equity-driven initiatives also improves employee retention, saving companies up to USD 50 million.[89]

The final consideration in equitable access is pricing schemes. Traditionally, countries or regions negotiate the price of medicines and technologies with healthcare companies, leading to varied pricing around the globe.[90] When a country, like the United States and many Western European countries, has more purchasing power, they can negotiate lower prices. Recently, many scholars have devised alternative pricing strategies that create more equitable access for developing countries. Tiered pricing values technologies based on a country's economic status. This means offering technologies at lower prices for developing countries and higher prices for developed countries but maintaining profit for companies.

However, tiered pricing becomes more complicated in practice. Current iterations use different metrics for calculating a country's economic status, creating confusion in pricing.[91] Tiered pricing can also unintentionally promote parallel trade, where developing countries resell their lower-priced goods at a profit to higher-income markets. Such trade would undermine a tiered pricing model. Another emerging option is a value-based pricing model. This model seeks to "reward" more innovative and impactful technologies, as measured by impact on quality-adjusted life years (QALYs).[92] QALYs estimate the additional years of health gained by use of a technology. However, some argue that a pricing model essentially puts a monetary value on a life, which is ethically dubious.

CURRENT STATUS

AI in Health Technology

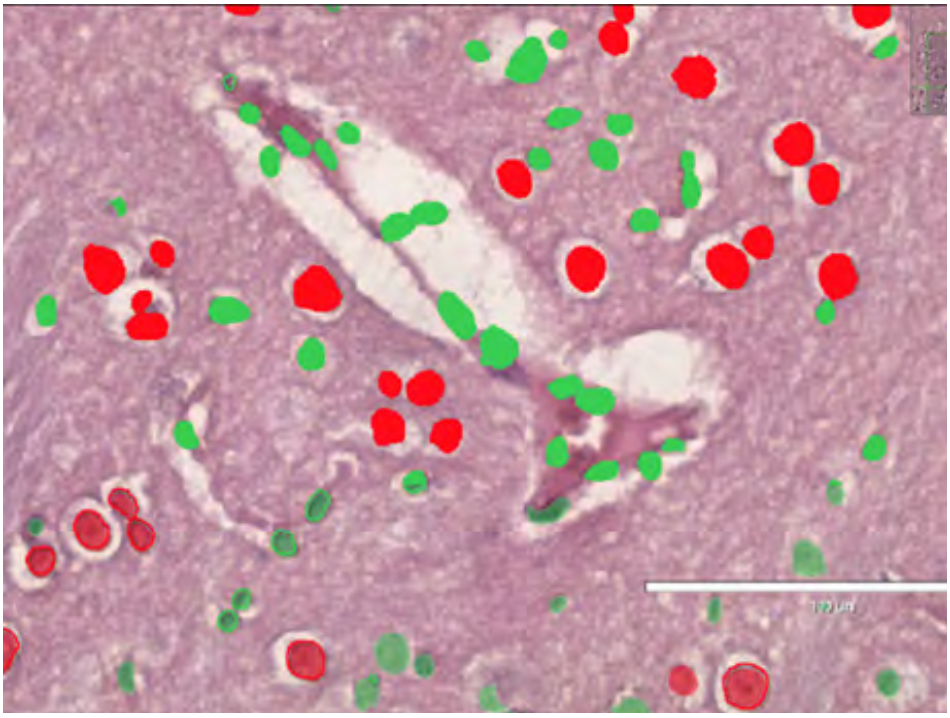
Recently, artificial intelligence (AI) and machine learning have transformed the health technology industry. This facilitates the creation of more effective and more precise technologies.[93] AI refers to machines that can learn from data and mimic human cognitive functions, such as learning and problem solving. Specifically, generative AI, such as ChatGPT, can use patterns to create entirely new content,

89 "Global Health & Revenue Growth | Voluntary Licensing Report."
90 "Tiered Pricing for Varied Markets: Is It of Value to Patient Access?" Marksman Healthcare, accessed August 28, 2025, marksmanhealthcare.com/2024/10/17/tiered-pricing-for-varied-markets-is-it-of-value-to-patient-access/.
91 Marksman Healthcare, "Tiered Pricing for Varied Markets: Is It of Value to Patient Access?"
92 "Value-Based Pricing of New Healthcare Technologies," Syenza, March 22, 2022, syenza.com/value-based-pricing-of-new-healthcare-technologies/.
93 Junaid Bajwa et al., "Artificial intelligence in healthcare: transforming the practice of medicine," *Future Healthcare Journal* 8, no. 2 (July 2021): e188–e194, doi.org/10.7861/fhj.2021-0095.

including text, images, and music. Predictive AI uses past data to make predictions about future events.[94] Both have important applications in healthcare.

By 2030, there is expected to be a global health worker shortage of 11 million. This amounts to 4.5 billion people who will lack access to healthcare worldwide.[95] Further, with an ever-aging global population, an increase in chronic disease, and a rise in healthcare costs, the need for healthcare will become more pressing. AI can solve this supply-and-demand crisis. By automating time-consuming processes in patient care and healthcare administration, AI can support health workers in caring for patients.

On the patient care side, AI is increasingly being used to analyze patient imaging and radiology scans. A university in the United Kingdom developed an AI tool able to examine the brain scans of stroke patients with twice the accuracy of physicians. This required training the AI model with 800 brain scans. Another new "smart" stethoscope uses AI and standard echocardiogram technology to detect heart failure with 90 percent accuracy.[96] In 80 percent of ambulance cases in a UK study, AI could correctly predict whether a patient needed to be transferred to the hospital, based on their vital signs.[97] A separate generative AI model developed in the United States was able to produce useful answers to over half of a patient's medical questions, reducing readmission rates and providers' time spent reviewing patients.[98] AI also has the potential to help people manage chronic illnesses through continual screening and medication reminders.[99]



Immunohistochemistry technologies with AI (Credit: MykhailoPervak)

In public health, AI can help to more quickly disseminate information and analyze web searches to predict disease outbreaks. The pharmaceutical company AstraZeneca even developed an AI model able to detect certain diseases based on biomarkers and medical history, even before symptoms arise. Many large companies are developing AI models useful to healthcare as well. Microsoft created an AI tool that listens to patients and then creates clinical consultation notes, and Google's AI model alleviates the administrative burdens of healthcare.

Although these technologies are exciting, they come with concerns. A UK study found that only 29 percent of people would trust AI in providing health advice. However, over two-thirds would be comfortable with the technology being used to help providers with

94 "Artificial intelligence: 10 promising interventions for healthcare," July 28, 2023, doi.org/10.3310/nihrevidence_59502.
95 Madeleine North, "6 Ways AI Is Transforming Healthcare," *World Economic Forum*, last updated August 13, 2025, www.weforum.org/stories/2025/03/ai-transforming-global-health/.
96 "Artificial intelligence: 10 promising interventions for healthcare."
97 North, "7 Ways AI Is Transforming Healthcare."
98 North, "7 Ways AI Is Transforming Healthcare."
99 "AI in healthcare: The future of patient care and health management," *Mayo Clinic Press*, March 27, 2024, mcpress.mayoclinic.org/healthy-aging/ai-in-healthcare-the-future-of-patient-care-and-health-management/.

time-consuming tasks.[100] Currently, AI is being used to support, not replace, healthcare providers. With AI imaging analysis technology, for example, AI is used as a first-pass check, and its findings are then verified by a trained human healthcare professional. It is also important to note that the health sector is "below average" in the rate of its AI adoption, and many promising AI products are still in the development phase.[101]

Many ethical AI concerns are pressing in health because of the high stakes involved with health and well-being.[102] AI requires learning from past data to create future outputs. This creates concerns around feeding sensitive patient health data to AI. These data must be anonymized and protected to ensure they cannot be hacked by malicious actors nor revealed by AI models. Current data and privacy laws are not expansive enough to protect health data in the context of AI.[103]

The second concern with training data is the creation of biased AI models. Biased models can lead to discrimination and misleading or incorrect predictions. This can have potentially life-threatening consequences. For example, a study of commercial algorithms using cost to understand illness found racial bias. The health needs of Black patients were underidentified compared to those of white patients.[104] Biased models are created by training AI with biased data. Biased data is created in several ways. Individual providers' biases can affect the data, as well as the data availability. People in developed countries and wealthier people are more likely to utilize healthcare services, meaning there is more data available on these populations than on populations who underutilize healthcare. This creates exclusion bias, potentially leading to AI models biased toward wealthy individuals in developed countries. There is also evidence of bias when training AI on scientific research, since developed countries have more research funding and therefore publish more scientific research. Therefore, biased AI tools may exacerbate existing health disparities.[105]

Often, bias in AI can be difficult to solve because many AI tools are "black boxes," where people do not fully understand the intermediate steps in how AI reaches a decision. When AI lacks this explainability and transparency, it becomes difficult for healthcare providers to understand how AI systems work and for patients to trust AI.[106] It also raises the issue of who should be accountable when AI systems make a serious mistake. It is unclear if healthcare providers, technology companies, or someone else should be held responsible.

The final major concern is the depersonalization of health. AI systems rely on quantitative data. This lacks the nuances, emotions, and personal stories of the human experience. Especially in difficult times, AI cannot provide the empathy a human can. Further, it cannot "read between the lines" and detect when individuals are lying or being sarcastic. Thus, efficiency in healthcare can come at the cost of human connection.

Case Study: Brain-Computer Interfaces

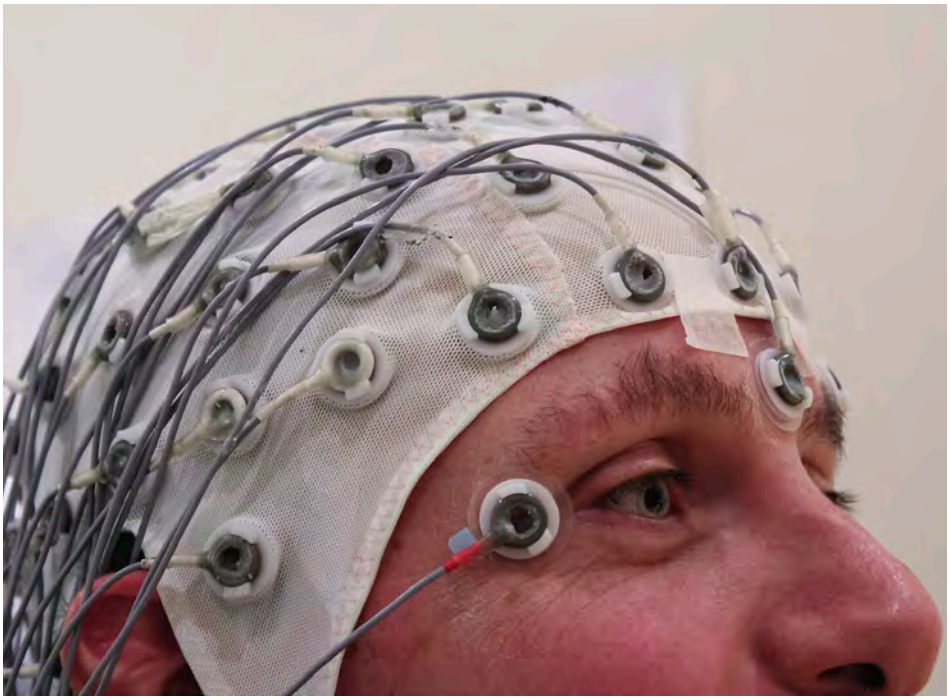
Brain-computer interfaces (BCIs) are a neurotechnology that analyzes a person's brain signals and translates them into an output.[107] In other words, it determines the functional intent of a brain signal (e.g., bend arm, type the letter "a") and executes the intended action using an application or engineered

100 North, "7 Ways AI Is Transforming Healthcare."
101 North, "7 Ways AI Is Transforming Healthcare."
102 "Pursuing the Ethics of Artificial Intelligence in Healthcare," Cedars-Sinai Medical Center, October 25, 2023, www.cedars-sinai.org/newsroom/pursuing-the-ethics-of-artificial-intelligence-in-healthcare/.
103 Dariush D. Farhud and Shaghayegh Zokaei, "Ethical Issues of Artificial Intelligence in Medicine and Healthcare," *Iranian Journal of Public Health* 50, no. 11 (October 2021), doi.org/10.18502/ijph.v50i11.7600.
104 Irene Dankwa-Mullan, "Health Equity and Ethical Considerations in Using Artificial Intelligence in Public Health and Medicine," *Preventing Chronic Disease* 21 (August 2024), doi.org/10.5888/pcd21.240245.
105 Chukwuka Elendu et al., "Ethical implications of AI and robotics in healthcare: A review," *Medicine* 102, no. 50 (December 15, 2023): e36671, doi.org/10.1097/md.0000000000036671.
106 Rabaï Bouderhem, "Shaping the Future of AI in Healthcare through Ethics and Governance," *Humanities and Social Sciences Communications* 11 (March 2024), doi.org/10.1057/s41599-024-02894-w.
107 Jerry J. Shih, Dean J. Krusienski, and Jonathan R. Wolpaw, "Brain-Computer Interfaces in Medicine," *Mayo Clinic Proceedings* 87, no. 3 (March 2012): 268-279, doi.org/10.1016/j.mayocp.2011.12.008.

technology.[108] Broadly, BCIs allow users to control a device/technology with only their mind.[109]

One way to classify BCIs is by their invasiveness and permanence.[110] The scientific principles behind BCIs are not a new discovery. Electroencephalography (EEG), a medical technology where electrodes are placed on the surface of a patient's scalp to measure brain activity, has been around for decades.[111] BCIs, however, have become more invasive recently. Often, they now require surgical implantation and removal. There are benefits and drawbacks to this, as having BCIs deeper in the brain allows it to capture clearer brain signals but also increases the risk of implantation because it requires an invasive surgery.

Currently, BCIs are most widely used to help restore function to people with neuromuscular disabilities, such as cerebral palsy, spinal cord injury, and locked-in syndrome.[112] These patients have normal cognitive function but have lost voluntary control of their muscles. Thus, they may lose their ability to move or speak.[113] In these cases, because brain signals cannot induce the muscles to move, they can instead be analyzed and interpreted using a BCI to make a prosthetic limb move.



EEG Recording Cap (Credit: Chris Hope)

An increasingly well-known example of a BCI is Neuralink. Founded in 2016, Neuralink devices are surgically implanted in patients' brains.[114] They read brain signals to control computers and robotic limbs. In clinical trials with human patients, Neuralink has shown promise. A paralyzed patient in the United States received a Neuralink implant and was discharged from the hospital the day after his surgery.[115] The implant then allowed him to control his computer and smartphone with his thoughts, greatly improving his quality of life.

Neuralink is far from the only BCI currently being developed and tested. A university in the United States is developing a microtechnology that can be inserted just under the skin, between hair follicles, and record

108 "What is a Brain Computer Interface?" University of Calgary, accessed August 28, 2025, cumming.ucalgary.ca/research/pediatric-bci/bci-program/what-bci.
109 University of Calgary, "What is a Brain Computer Interface?"
110 Joshua E. Woods et al., "Miniature Battery-Free Epidural Cortical Stimulators," *Science Advances* 10, no. 15 (April 2024):, doi.org/10.1126/sciadv.adn0858.
111 James L. Stone and John R. Hughes, "Early History of Electroencephalography and Establishment of the American Clinical Neurophysiology Society," *Journal of Clinical Neurophysiology* 30, no. 1 (February 2013): 28-44, journals.lww.com/clinicalneurophys/abstract/2013/02000/early_history_of_electroencephalography_and.2.aspx.
112 Shih, Krusienski, and Wolpaw, "Brain-Computer Interfaces in Medicine."
113 University of Calgary, "What is a Brain Computer Interface?"
114 "Neuralink — Pioneering Brain Computer Interfaces," Neuralink, accessed August 28, 2025, neuralink.com/.
115 "Paralyzed Veteran Surgically Implanted with Neuralink Device at The Miami Project to Cure Paralysis," *University of Miami*, June 27, 2025, news.med.miami.edu/paralyzed-veteran-surgically-implanted-with-neuralink-device-at-the-miami-project-to-cure-paralysis/.

Elon musk at a 2020 event to promote Neuralink (Credit: Steve Jurvetson)

neural signals and control an augmented reality video call.[116] This is an example of a promising, less invasive BCI.

Even so, the ethical concerns raised by BCIs are far-reaching. There are privacy and security concerns for patients.[117] BCIs gather data on arguably the most sensitive patient data- a patient's thoughts and mental states.[118] If companies choose to store this information, there must first be justification for data storage and strict safeguards to ensure the data is safe from malicious actors. Modern BCIs that are implanted and continually gather brain information may also compromise the user's cognitive liberty, which is the right of individuals to be free from unwarranted intrusion into their minds and mental processes. When all of a patient's actions and thoughts are read by a BCI, users essentially lose the ability to have "private" thoughts. However, the validity of this assertion depends on the definition of privacy. Information read by a BCI is private from other individuals, but not from machines. Delegates will have to decide if this level of information sharing will still be considered private. The current standards for this novel health technology are not expansive enough to address such questions yet, nor can they fully protect individuals' privacy from modern BCIs.

Implantable BCIs also raise questions about personal identity. A study of BCI users found that this technology affects how users perceive themselves and how others perceive them. Simply having a BCI has been shown to change a user's cognition, behavior, desired goals, and daily activities.[119] This subsequently changes one's personal identity. Many users also begin to perceive the BCI as an extension of their bodies and as a core component of their identity. As BCIs intertwine humans with technology, they force us to reevaluate our relationship with technology as a whole and our definition of humanity.

Autonomy is a person's ability to make choices for themselves.[120] Autonomy does not, however, mean all choices need to be completely free. For example, when a patient designates a medical proxy to make decisions regarding their medical care on their behalf, the patient is still considered autonomous. Therefore, autonomy is concerned with whether a decision best reflects the user's true desires and preferences. A BCI that perfectly reflects a patient's thoughts would preserve patient autonomy. However, it is difficult to know

116 Walter Rich, "New Wearable Brain-Computer Interface," *Georgia Tech*, April 7, 2025, research.gatech.edu/new-wearable-brain-computer-interface.
117 Xiao-yu Sun and Bin Ye, "The Functional Differentiation of Brain–Computer Interfaces (BCIs) and Its Ethical Implications," *Humanities and Social Sciences Communications* 10, no. 1 (November 2023), doi.org/10.1057/s41599-023-02419-x.
118 William A. Haseltine, "The Need for Ethical Regulation of Brain-Machine Interface Technologies," *Inside Precision Medicine*, August 1, 2024, www.insideprecisionmedicine.com/topics/the-need-for-ethical-regulation-of-brain-machine-interface-technologies/.
119 Sun and Ye, "The Functional Differentiation of Brain–Computer Interfaces (BCIs) and Its Ethical Implications."
120 Efstratios Livanis et al., "Understanding the Ethical Issues of Brain-Computer Interfaces (BCIs): A Blessing or the Beginning of a Dystopian Future?" *Cureus* 16, no. 4 (April 2024), doi.org/10.7759/cureus.58243.

to what extent a BCI is accurately interpreting a patient's thoughts, which then creates questions surrounding autonomy.

Finally, BCIs reflect an ever-present argument regarding therapy versus enhancement. In the future, BCIs will have the power to enhance human cognitive function. This can look like BCIs "downloading" knowledge to a human's brain or expanding the realm of human action. As it stands, BCIs are expensive, so if BCIs that can enhance human function are created, their use may be exclusive to the extremely wealthy. And so, delegates must consider whether cognitive enhancement is ethical, keeping in mind its implications on society and evolution.

Sustainable Development Goals

The United Nations' Sustainable Development Goals (SDGs) are 17 goals set by the 2030 Agenda for Sustainable Development. They aim to build peace and prosperity for all.[121] In 2015, all UN member states adopted these goals and have worked to achieve them. The SDGs build upon the earlier Millennium Development Goals from 2000.

Creating ethical frameworks for emerging health technologies relates most directly to SDG 3: "Ensure healthy lives and promote well-being for all at all ages." Health technologies can support each target of SDG 3. For example, digital monitoring of pregnant women and infants, along with AI-supported pregnancy risk assessments, can help reduce maternal and child mortality, as stated in targets 3.1 and 3.2. Target 3.1 aims to "reduce the global maternal mortality ratio to less than 70 per 100,000 live births by 2030." Target 3.2 aims to "end preventable deaths of newborns and children, reducing neonatal mortality to at least 12 per 1,000 live births and under-5 mortality to at least 25 per 1,000 live births."

Health technologies can also lower premature deaths from non-communicable diseases while promoting mental health, relating to target 3.4. Target 3.4 aims to "reduce by one-third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being."[122] Digital epidemiology and public health tools can help achieve target 3.3, which aims to end epidemics like AIDS, tuberculosis, malaria, and neglected tropical diseases. Telehealth and AI tools can support universal access to healthcare, relating to targets 3.7 and 3.8. Using health technologies effectively is essential to achieving SDG 3, but it must be done ethically to protect human autonomy and dignity.

SDG 8 aims to "promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all."[123] Target 8.2 encourages "higher levels of economic productivity through diversification, technological upgrading, and innovation, including through a focus on high-value added and labor-intensive sectors." Health technologies can modernize healthcare, improve efficiency, and address workforce shortages.

SDG 9 focuses on "building resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering innovation."[124] Target 9.1 relates to sustainable infrastructure, 9.5 to scientific research, and 9.b to domestic technology development. Ethical use of new scientific knowledge and health technologies can strengthen healthcare systems and create opportunities for further innovation.

SDG 10 focuses on reducing inequality within and among countries. Target 10.2 aims to "empower and promote the social, economic, and political inclusion of all."[125] In the context of health technology, this means ensuring that innovations like AI diagnostics or genomic medicine do not only benefit wealthy populations. Ethical frameworks should guarantee fair global access, particularly for

121 "THE 17 GOALS," United Nations, accessed August 28, 2025, sdgs.un.org/goals.
122 United Nations, "Goal 3."
123 "Goal 8," United Nations, accessed August 28, 2025, sdgs.un.org/goals/goal8#targets_and_indicators.
124 "Goal 9," United Nations, accessed August 28, 2025, sdgs.un.org/goals/goal9#targets_and_indicators.
125 "Goal 10," United Nations, accessed August 28, 2025, sdgs.un.org/goals/goal10#targets_and_indicators.

low- and middle-income countries where disease burdens are highest. SDG 16, which promotes peace, justice, and strong institutions, is also closely linked. Ethical use of health technologies depends on transparent institutions, strong data protection laws, and public trust in science. Without accountability and rule of law, even the most advanced technologies can harm rather than help.

SDG 17 emphasizes global partnerships and cooperation. Target 17.6 promotes "access to science, technology, and innovation" through North–South and South–South collaboration.[126] This target directly supports the idea that international sharing of data, expertise, and resources is essential for safe and equitable technological progress. Without such cooperation, innovation risks deepening inequality rather than reducing it.

Together, these goals show that the ethical use of emerging health technologies is not only a matter of innovation but also of justice, equity, and cooperation. Health technologies can advance nearly every SDG, from reducing inequality to building resilient institutions, if they are guided by shared global principles of responsibility and respect for human dignity.

Bloc Analysis

Points of Division

Globally, the uptake and regulation of emerging health technologies is far from uniform. And so, blocs can best be defined along two axes: degree of health technology advancement and degree of health technology regulation. The Global Digital Health Monitor (GDHM) can be used to categorize states along these axes. The GDHM was made in collaboration with 20+ countries and 50+ international agencies and organizations to align with the World Health Organization's Global Digital Health Strategy.[127] The GDHM draws upon country-reported survey data and publicly available information to track country progress along seven key indicators: (1) leadership & governance, (2) strategy & investment, (3) legislation, policy, & compliance, (4) workforce, (5) standards & interoperability, (6) infrastructure, and (7) services & applications. Countries are then categorized into phases 1-5 based on indicator-specific benchmarks, with phase 5 representing the most advanced countries.

When forming blocs, the GDHM Infrastructure and the Services & Applications indicators can guide delegates in determining their country's level of health technology advancement.[128] The GDHM Legislation, Policy & Compliance indicator can guide delegates in determining their country's level of health technology regulation.

Even so, delegates must remember that GDHM indicators provide a broad overview of health technology in a country. They should not be exclusively used to guide bloc membership. Instead, policies should be further researched to understand a country's nuances and specific viewpoints. This can mean understanding the state of a country's public opinion surrounding health technology or state funding of scientific research. Actions surrounding the 2023 UNESCO International Declaration on Human Genetic Data, for example, also provide valuable insight into a country's position on international regulatory frameworks.[129]

126 "Goal 17," United Nations, accessed August 28, 2025, sdgs.un.org/goals/goal17#targets_and_indicators.
127 "Methodology," Global Digital Health Monitor, accessed August 28, 2025, monitor.digitalhealthmonitor.org/methodology.
128 Global Digital Health Monitor, "Methodology."
129 "International Declaration on Human Genetic Data," UNESCO, accessed August 28, 2025, www.unesco.org/en/ethics-science-technology/human-genetic-data.

Countries with High Health Technology Advancement and Moderate to High Regulation

Countries in this bloc are generally at the forefront of health technology innovation and policy. Countries of this bloc have large research institutions that actively discover new knowledge in the areas of biology, medicine, and public health. Likewise, many of the companies creating new health technologies will be found in these countries. Countries will also have strong institutions dedicated to research on ethical and legislative implications of health technologies.

Countries in this bloc are often the first to face the ethical dilemmas raised by emerging health technologies. They frequently pioneer and "test" new policies and regulations aimed at addressing such issues. Effective policies are often then used as a model for international regulatory standards. Countries in this bloc are in Phase 5 for the majority of GDHM indicators, including the three previously highlighted indicators for technological advancement and regulation.[130]

Countries belonging to the European Union are illustrative examples of this bloc. In the EU, there are over two million medical technologies available for use in clinical care settings.[131] 37,000 medical technology companies are based in Europe, representing a market worth EUR 160 billion in 2023.[132] EU influence on the health technology industry is undeniable. In response, the EU has also proactively been enacting legislation to regulate these technologies. For example, the 2025 EU Health Technology Assessment outlines a framework to assess the pricing, access, and efficacy of new health technologies.[133] Such a process balances scientific evidence with clinical need to ensure the greatest benefit to citizens. Other countries in this bloc include Canada, Australia, Saudi Arabia, and the United Kingdom.

However, these countries also face growing pressure to define what qualifies as a "global emergency." For instance, while pandemics like COVID-19 triggered rapid emergency use authorization, chronic diseases such as malaria, common in lower-income states, did not receive similar urgency. Delegates from this bloc must therefore consider how emergency mechanisms can be used responsibly without reinforcing global inequities. Public health priorities in their borders will look different from other blocs as well.

Countries with High Health Technology Advancement and Low Regulation

This bloc will be composed of countries that foster technological innovation in the healthcare industry while also lacking appropriate and proportional safeguards for such innovation. Such low levels of regulation may be purposeful, to foster unfettered technological creativity and invention at greater magnitudes than what is seen in countries with appropriate regulations. Lack of regulation may also be the result of weak government, lack of oversight infrastructure, and/or lack of knowledge regarding appropriate safeguards. Delegates representing these countries should question whether rapid innovation justifies bypassing strict ethical oversight-especially when emergency authorizations are granted without clear or fair criteria.

Countries in this bloc should focus on creating appropriate international regulatory frameworks and supporting infrastructure that safeguards human dignity and health amidst technological advancement. Countries in this bloc are in a higher phase for GDHM advancement indicators (Infrastructure, Services & Applications) than regulatory

130 Global Digital Health Monitor, "Methodology."
131 "Our contributions to the EU agenda," MedTech Europe, accessed August 28, 2025, www.medtecheurope.org/about-the-industry/our-contributions-to-the-eu-agenda/.
132 MedTech Europe, "Our Contributions to the EU Agenda - about the Industry - MedTech Europe."
133 "Joint Clinical Assessment Rules on Health Tech Assessment Now in Effect: New Era for Patient Access to Innovation" *RTI Health Solutions*, January 13, 2025. www.rtihs.org/updates-and-events/eu-joint-clinical-assessment-rules-health-tech-2025.

indicators (Legislation, Policy, & Compliance).[134] However, delegates must remember when considering membership in this bloc that emphasis should be placed on the proportionality of regulatory frameworks to advancement, rather than the raw number of regulations. And so, GDHM indicators can guide bloc membership when complemented by additional policy research.

An example of a country in this bloc is Indonesia. Since 2010, Indonesia has been investing in health technology advancement, and the COVID-19 pandemic further spurred their technology adoption.[135] Many emerging health technology companies, such as Halodoc, Alodokter, and KlikDokter, are also based in Indonesia.[136] Even so, there are gaps in regulatory standards and a lack of government oversight to promote equitable technology uptake, causing uneven access to technologies. Implementation of existing policies is also inconsistent between regions.[137] This leaves consumers vulnerable to privacy violations, security breaches, and potential data misuse. In discussions about emergency authorizations, this bloc may argue that global standards should not penalize innovation but instead support shared ethical oversight so innovation can continue without sacrificing safety. Other countries in this bloc include India, the Philippines, Venezuela, and Honduras.

Countries with Low Health Technology Advancement, and Moderate to High Regulation

This bloc will be composed of countries with meaningful regulatory frameworks that can be seen as "preemptive" relative to their level of health technology advancement. Although health technologies are not widely accessible and/or popular in these countries, citizens are protected nonetheless, for when such technologies become widespread.

Countries in this bloc should first identify what barriers they face in health technology adoption, for example, cost, patent protections, lack of infrastructure, or public mistrust. From there, this bloc should consider solutions that can increase health technology use, bearing in mind the overarching goal of improving human health and mitigating death.

Countries in this bloc are in a lower phase for GDHM advancement indicators (Infrastructure, Services & Applications) than regulatory indicators (Legislation, Policy, & Compliance).[138] Similar to the previous bloc, emphasis should still be placed on the proportionality of regulatory frameworks to advancement, rather than the raw number of regulations.

Costa Rica is an example of a country in this bloc. In past years, Latin America has become a popular destination for so-called "stem-cell tourism." Stem-cell treatment involves the removal and re-injection of stem cells for therapeutic purposes.[139] Such treatment is not authorized in many developed countries, so people will travel to Latin American countries to receive such treatment. In response, Costa Rica's health ministry ordered a pause on stem-cell treatments because they found no evidence that the treatments are safe or effective. Such a policy safeguards human health while further research is done into stem-cell treatment. Delegates from this bloc could advocate for international criteria defining what qualifies as an emergency, arguing that ethical frameworks must prevent double standards between diseases that affect wealthy states and those that affect poorer ones. Other countries in this bloc include

134 Global Digital Health Monitor, "Methodology."
135 Tomoo Sato et al., "Unlocking Indonesia's Future-Proof Healthcare for High-Quality Services and Better Access," *Kearney*, August 2, 2022, www.kearney.com/about/locations/southeast-asia/insights-events/article/-/insights/unlocking-indonesia-s-future-proof-healthcare-for-high-quality-services-and-better-access.
136 "Digital Health – Indonesia," *SSEK Law Firm*, July 17, 2024. ssek.com/blog/digital-health-indonesia-2/.
137 Fifi Mutiah, Hotma Sibuea, and Mardi Chandra, "Telemedicine Regulation in Indonesia: Legal Frameworks, Challenges, and Future Directions," *Jurnal Multidisiplin Indonesia* 4, no. 4 (May 5, 2025): 242-251, doi.org/10.58344/jmi.v4i4.2267.
138 Global Digital Health Monitor, "Methodology."
139 Leslie Josephs, "Costa Rica Puts Brakes on Popular Stem Cell Tourism," *Reuters*, June 7, 2010. www.reuters.com/article/business/healthcare-pharmaceuticals/costa-rica-puts-brakes-on-popular-stem-cell-tourism-idUSTRE6516UR/.

South Africa, Kazakhstan, Ecuador, and Mali.

Countries with Low Health Technology Advancement and Low Regulation

This bloc will be composed of countries that do not have access to and/or choose not to adopt many emerging health technologies. In turn, they do not have many regulations or policies geared toward this industry.

Many countries in this bloc will face systemic challenges, including weak, decentralized healthcare systems and a population facing a high burden of disease. And so, these countries often stand to benefit the most from modern health technologies. Countries in this bloc have the unique, important opportunity to expand access to health technologies while contributing to the global discussion on appropriate regulatory frameworks. However, global collaboration is paramount for such an opportunity to be realized.

The Democratic Republic of the Congo is an example of a country in this bloc. Recently, the DRC has attempted to integrate electronic health records into their medical system.[140] However, they have faced significant challenges such as lack of reliable internet access and electricity caused by inadequate infrastructure and low digital literacy.[141] Further, the DRC does not yet have many data privacy, security, and safety laws needed to regulate health technologies.[142] Delegates from this bloc may challenge the fairness of the current emergency-use system. They would note that ongoing crises such as malaria and tuberculosis, diseases that devastate low-income populations, are not treated as "emergencies" deserving rapid authorization. They may call for a more equitable, transparent system for declaring global health emergencies. Other countries in this bloc include Haiti, Chad, Papua New Guinea, and the Central African Republic.

Committee Mission

Through conventions, recommendations, and resolutions, UNESCO sets ethical standards, promotes cooperation, and builds shared knowledge to confront the world's most pressing challenges.[143] UNESCO conventions carry the force of international law, while resolutions, though not legally binding, represent moral commitments and political will among Member States.[144]

Throughout the session, delegates should recognize the nuances of the issue at hand. Ethics and law often overlap, but they are not identical. For instance, medical negligence, informed consent, and anti-discrimination laws are grounded in the four principles of medical ethics: autonomy, beneficence, non-maleficence, and justice.[145] Yet actions like whistleblowing, where an individual exposes wrongdoing, may be ethically justifiable but legally prohibited in some contexts.[146] And so, delegates in UNESCO should aim to craft recommendations that bridge legality and morality, guiding global action by ethical reasoning rather than convenience or precedent.

140 Kalema Josue Djamba et al., "E-Health implementation in the Democratic Republic of the Congo: Current position," *International Journal of Health Sciences* 9, no. 1 (February 2025): 210-222, doi.org/10.53730/ijhs.v9n1.15543.
141 Djamba et al., "E-Health Implementation in the Democratic Republic of the Congo: Current Position."
142 Brigitte Juanals, "Protection des données personnelles et TIC au cœur des enjeux de société et de la mondialisation : les mécanismes d'un contrôle distribué," *Tic & Société* 8, no. 1-2 (2014), doi.org/10.4000/ticetsociete.1475.
143 "UNESCO in brief," UNESCO, accessed August 28, 2025, www.unesco.org/en/brief.
144 "UNESCO's standard-setting. An Overview," UNESCO, accessed August 28, 2025, www.unesco.org/en/legal-affairs/standard-setting/overview.
145 "The four principles of medical ethics," *Medical Protection*, August 2, 2024, www.medicalprotection.org/uk/articles/essential-learning-law-and-ethics.
146 Tim Vipond, "Ethical vs. Legal Standards," *Corporate Finance Institute*, accessed August 28, 2025, corporatefinanceinstitute.com/resources/esg/ethical-vs-legal-standards/.

Every delegation will interpret "right" and "wrong" through its own cultural, philosophical, and religious lenses. Effective diplomacy requires empathy and precision: delegates must find common ethical ground that upholds human dignity, equity, and scientific integrity.

Effective solutions will be grounded in evidence, guided by ethics, and shaped through inclusive dialogue. In doing so, delegates in UNESCO hold the extraordinary power to define the boundaries of responsible innovation, protect human life and identity, and shape the moral landscape of science for generations to come.

Protecting Cultural Heritage in Conflict Zones

Photo Credit: Jakub Hałun

Cultural heritage is the expression of a community's identity, history, and values. Their monuments, traditions, stories, and languages are all a living record of the past. They are often what defines society and its future. In times of conflict, many markers of heritage are destroyed.[1] In some cases, this destruction is not a mistake. It is an intentional act to erase the history of a culture. The consequences of the loss of cultural heritage extend far beyond the loss of a physical object. It represents something much deeper.

The protection of cultural heritage in conflict zones has been an ongoing conversation for many years. The 1954 Hague Convention was the first international treaty establishing guidelines for their protection during times of conflict. Since then, numerous United Nations Educational, Scientific, and Cultural Organization (UNESCO) initiatives have established legal frameworks for the protection of these heritage sites before, during, and after conflict.[2] However, many conflicts today are increasingly complex, with many groups involved. This makes enforcement difficult. In the face of this, the use of preventative measures, new technologies, and tools like social media has created new opportunities for preservation on a local and global scale.[3]

Exploring cultural heritage in conflict zones is a complex and important topic. Targeted attacks show us how even our history can be fought over. Our shared traditions also work to heal us when peace arrives. There is also a greater emphasis today on preventative measures to help preserve these sites.[4] Additionally, the experiences of displaced people are an important example of how cultural identity can be changed and, in some cases, lost without a connection to the homeland.

Understanding that cultural heritage is an active and living expression of identity underscores why its protection matters during and after conflict.[5] The way local and international communities respond to the loss of heritage will shape how the past is remembered and the cultural legacy of communities susceptible to the loss of identity.

Topic Background

Cultural Heritage as an Educational Legacy

Cultural heritage is more than a collection of artifacts and traditions. It is a representation of a community's identity and their lived experiences. This includes the everyday realities, traditions, and challenges people go through daily.[6] It illustrates resilience as communities preserve their heritage across generations of displacement, conflict, and hardship.[7] Children and future members of the community should be able to inherit the stories, skills, and traditions that shape who they are.[8]

In recent discussions about long-term preservation, many experts emphasize that knowledge of cultural heritage is a human right.[9] This view has been adapted into

1 "Cultural heritage and armed conflicts," UNESCO, accessed August 28, 2025, www.unesco.org/en/heritage-armed-conflicts.
2 "1954 Convention," UNESCO, accessed August 28, 2025, en.unesco.org/protecting-heritage/convention-and-protocols/1954-convention.
3 "Digital preservation of Indigenous languages: At the intersection of technology and culture," UNESCO, August 28, 2025, www.unesco.org/en/articles/digital-preservation-Indigenous-languages-intersection-technology-and-culture.
4 Herb Stovel, *Risk Preparedness: A Management Manual for World Cultural Heritage* (Rome: ICCROM, 1998), www.iccrom.org/sites/default/files/ICCROM_17_RiskPreparedness_en.pdf.
5 Stovel, *Risk Preparedness: A Management Manual for World Cultural Heritage*.
6 "Cultural Heritage Engraved in Blood: A Human Right Beyond Time," *Harvard International Law Journal*, March 12, 2025, journals.law.harvard.edu/ilj/2025/03/cultural-heritage-engraved-in-blood-a-human-right-beyond-time/.
7 "Heritage: A Dynamic Force for Building Resilient Communities," UNESCO, last updated October 25, 2024, www.unesco.org/en/articles/heritage-dynamic-force-building-resilient-communities.
8 "Cultural Heritage Engraved in Blood: A Human Right Beyond Time."
9 "Cultural Heritage Engraved in Blood: A Human Right Beyond Time."

international frameworks.[10] Today, there are over 1,200 UNESCO World Heritage sites covering over 400 million hectares of land. Cataloging these sites has been happening for many years, but the process is now changing.[11] Instead of passively listing cultural heritage sites, frameworks focus on actively preserving, protecting, and sharing heritage. This includes documenting a site's physical features and recording its history, cultural meaning, and related traditions. There is also an emphasis on community involvement. The current generation has a moral duty to pass along both the physical heritage and the lived experiences of their ancestors.[12]

A grandfather teaches his grandchildren about Gomira, a masked dance form (Credit: Avis19871)

In recognizing cultural heritage as a human right, there has been a push to optimize preservation and transmission through concrete mechanisms.[13] Accordingly, UNESCO reinforces this stance, and various countries have pledged monetary amounts to reflect the growing recognition. In 2019-2020, based on a survey of 19 reporting countries, a median of USD 89 per person was spent to preserve national heritage.[14] This figure is based on a method known as Purchasing Power Parity (PPP), where cost differences between countries are adjusted to compare the spending fairly.[15] Despite increased financial support for preservation purposes in some regions, there remains a significant global disparity. This is not only in the amount spent but also in which countries report data at all. For example, in Greece, there is an average of USD 11 PPP spent per person, while USD 219 PPP was spent in Denmark. However, the lack of reporting from most countries makes it difficult to assess global progress accurately, revealing persistent gaps in both funding and transparency.[16]

Beyond tangible cultural heritage, it is important to protect intangible cultural heritage. This type of heritage appears in many forms. It includes performing arts, oral traditions, rituals, festivals, knowledge regarding nature and the universe, and traditional craftsmanship.[17] These practices are

10 Andreas Giorgallis, "The idea of protecting cultural heritage for the benefit of future generations in international cultural heritage law," *International Journal of Cultural Property* 32, no. 1 (2025): 76-99, www.cambridge.org/core/journals/international-journal-of-cultural-property/article/idea-of-protecting-cultural-heritage-for-the-benefit-of-future-generations-in-international-cultural-heritage-law/54F2B798BDB815EC35E685B2969D1C91.
11 "World Heritage List," UNESCO, accessed August 28, 2025, whc.unesco.org/en/list/.
12 Giorgallas, "The Idea of Protecting Cultural Heritage for the Benefit of Future Generations in International Cultural Heritage Law."
13 "Cultural Heritage Engraved in Blood: A Human Right Beyond Time."
14 *Shaping investments to safeguard cultural and natural heritage across the world* (Montréal: UNESCO Institute for Statistics, 2022), uis.unesco.org/sites/default/files/documents/analysis_sdg_11.4.1_2022_final_alt_cover.pdf.
15 "Purchasing power parities (PPP)," OECD, accessed August 28, 2025, www.oecd.org/en/data/indicators/purchasing-power-parities-ppp.html.
16 "UNESCO Institute of Statistics releases data and key findings on cultural and natural heritage expenditure," *UNESCO Institute for Statistics*, June 2, 2022, uis.unesco.org/en/news/unesco-institute-statistics-releases-data-and-key-findings-cultural-and-natural-heritage.
17 "Understanding Intangible Cultural Heritage," *Canadian Commission for UNESCO*, October 10, 2019, en.ccunesco.ca/blog/2019/10/understanding-intangible-cultural-heritage.

the lived experience of a community that has been passed from one generation to the next. They play a big role in shaping identities and how a community understands and perceives the world. However, since intangible heritage is often transmitted through actions and by word of mouth, it is easier to lose. This is especially true in regions where conflict causes displacement, casualties, and the destruction of gathering places. This severs the physical and social ties that communities hold to intangible traditions.[18] Additionally, in emergencies where people flee or live under threat, it becomes unsafe or difficult to carry out traditions. This can permanently erase a community's cultural memory.[19]

To better recognize and protect intangible heritage, UNESCO adopted the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage. This was the first time the focus was fully on intangible elements, rather than just the monuments or the physical sites. The text of the convention calls on countries to proactively protect their intangible heritage through documenting it, supporting the communities that practice it, and including said communities in discussions about how heritage is handled.[20] There is also an emphasis on the need for international cooperation, especially in the face of conflict.

Recently, UNESCO has emphasized how important intangible heritage is for future generations, especially as globalization and conflict make it harder to keep these traditions alive.[21] To involve future generations and prevent this loss of culture, the UN has prioritized the involvement of the youth in documenting and learning about heritage. An example of this is in Argentina and Uruguay, where the bandoneon is a popular instrument. It is a key part of traditional music, but now few practicing musicians are alive, and many of them are over the age of 60. To encourage the younger generations to learn this art form, a UNESCO-funded project of about USD 100,000 inventoried bandoneons, players, and luthiers and launched a decentralized, free bandoneon school to engage youth and sustain the tradition. Efforts such as these, which involve younger generations, help prolong the lives of such traditions and diversity.[22]

Overall, the loss of cultural heritage, both tangible and intangible, has serious implications for generations to come. Whether it be languages, historic sites, or traditions that are erased with the connected heritage lost, the world loses important ways of understanding identity, history, and creativity.[23] During times of conflict and war, the destruction of property is not simply about the loss of a physical structure. It represents the loss of memories, values, and knowledge that define entire groups of people. This kind of loss weakens social connections and makes it even more difficult for communities to rebuild after war.[24] On the education front, the loss of cultural heritage limits the resources that the generations beyond have to understand their own history, values, and place in the world. It removes the opportunity to learn through storytelling, tradition, and community practices, which are all just as powerful as formal education.[25] On a global level, the disappearance of cultural heritage is reflective of a deeper human loss: the loss of shared understanding and a disconnect from our collective past.[26]

18 "Living heritage in emergencies," UNESCO Intangible Cultural Heritage, accessed August 28, 2025, ich.unesco.org/en/emergency-situations.
19 "Understanding Intangible Cultural Heritage."
20 "Text of the Convention for the Safeguarding of the Intangible Cultural Heritage," UNESCO, accessed August 28, 2025, ich.unesco.org/en/convention.
21 "UNESCO Helps Future Generations Safeguard Intangible Heritage," *UNESCO*, October 17, 2024, www.unesco.org/en/articles/unesco-helps-future-generations-safeguard-intangible-heritage.
22 "UNESCO Helps Future Generations Safeguard Intangible Heritage."
23 "The Fate of Cultural Property in Wartime: Why It Matters and What Should Be Done," Carnegie Council for Ethics in International Affairs, September 17, 2013, www.carnegiecouncil.org/media/series/ethics-online/the-fate-of-cultural-property-in-wartime-why-it-matters-and-what-should-be-done.
24 Carnegie Council for Ethics in International Affairs, "The Fate of Cultural Property in Wartime."
25 "The Impact of Culture on Education," London Centre for Public Studies, April 4, 2022, lcps.org.uk/impact-of-culture-on-education/.
26 Carnegie Council for Ethics in International Affairs, "The Fate of Cultural Property in Wartime."

Displacement as a Result of Conflict and its Impact on Heritage

Long term Rohingya refugee camp in Cox, Bazar Bangladesh (Credit: Rocky Masum)

At the end of 2024, an estimated 123.2 million people were forcibly displaced due to forms of conflict. Over the last decade, this number has doubled.[27] The focus for these refugees is basic survival, especially during the time of conflict and immediately after. These conditions make it difficult to preserve traditions, especially without the land and the home that shaped them.[28] The lack of physical spaces and environments such as community centers, sacred sites, and informal gathering spaces interrupts the everyday practices of these individuals. It pushes them farther away from their culture.[29] At refugee camps or temporary settlements, displaced people face harsh living conditions, trauma, and uncertainty.[30] Moreover, after conflict has ended and individuals return to their home, they often find that severe destruction has left these spaces unusable and abandoned.[31]

Displacement removes people from environments in which their identities were formed. This has severe impacts on the mental health of individuals and whole communities. Particularly, for Indigenous communities, culture is connected to life and the land.[32] Land holds more than material value; it is the foundation of cultural expression, spiritual practice, and memory. As the original inhabitants of these territories, Indigenous peoples often view the land not simply as a resource, but as a living relative.[33] Studies on Indigenous mental health post-displacement show difficulty in maintaining a sense of self. This is especially common among younger populations who are still discovering who they are.[34] According to research on displaced Indigenous groups in North America, rates of PTSD and depression range from 30 to 40 percent, and anxiety symptoms are present in up to 20 percent of

27 "Global Trends," UNHCR USA, June 12, 2025, www.unhcr.org/us/global-trends.
28 UNHCR USA, "Global Trends: Forced Displacement in 2024."
29 "Supporting refugees and migrants through ensuring their cultural rights and participation in cultural life," UNESCO, accessed August 28, 2025, www.unesco.org/en/sustainable-development/culture/ipcsd/supportingrefugees.
30 Zoe Taylor and Josiah Kaplan, *Mental Health in Displaced Child and Youth Populations: A developmental and family systems lens* (Geneva: UNICEF Innocenti – Global Office of Research and Foresight, 2023), www.unicef.org/innocenti/media/3741/file/UNICEF-Mental-Health-Displacement-2023.pdf.
31 UNESCO, "Supporting refugees and migrants through ensuring their cultural rights and participation in cultural life."
32 Viviane Josewski, Sarah de Leeuw, and Margo Greenwood, "Grounding Wellness: Coloniality, Placeism, Land, and a Critique of "Social" Determinants of Indigenous Mental Health in the Canadian Context," *International Journal of Environmental Research and Public Health* 20, no. 5: 4319. doi.org/10.3390/ijerph20054319.
33 John Bosco Acharibasam et al., "Meanings of Indigenous land-based healing and the implications for water governance," EXPLORE 20, no. 5 (2024),"International Journal of Migration Studies," doi.org/10.1016/j.explore.2024.04.002.
34 Taylor and Kaplan, *Mental Health in Displaced Child and Youth Populations: A developmental and family systems lens.*

those affected.[35] These impacts are not isolated: displacement and the resulting cultural disconnect are linked to intergenerational trauma, increased suicide risk, and identity fragmentation. These effects weaken entire communities and disrupt the flow of knowledge from one generation to the next.[36]

In host countries or camps, refugees often face social stigma and language barriers that make it difficult to adapt to their new life. To avoid discrimination or to gain access to employment and education, many are forced to assimilate.[37] Though assimilation is not always obvious, it often results in a system that prioritizes a host country's cultural norms, leading to the abandonment of refugees' own cultural identities.[38] For many refugee families, the cost of adaptation, while necessary, is steep. Children grow up speaking only the host country's language rather than their own. Traditional ceremonies, clothing, and even oral histories may be discouraged or forgotten for the sake of survival.[39] This disconnection threatens both personal and collective identity and heritage. Over time, this weakens the social fabric of displaced communities.

In response, UNESCO has launched projects that focus on safeguarding intangible heritage in situations of forced displacement and conflict. One such project, from January 2021 to January 2025, was funded with USD 100,000 and took place at the Minawao refugee camp in Cameroon.[40] As of October 2023, this camp hosted more than 70,000 refugees, primarily those who had fled from Nigeria due to violence linked to terrorist group Boko Haram.[41] In response to this situation, UNESCO worked closely with UNHCR to host a workshop focused on reviving traditional crafts, storytelling, and communal celebrations. The workshop also sought to highlight the role of living heritage as both a resource and a coping mechanism in times of emergency and conflict. This program worked with local community leaders and UN representatives to help preserve cultural heritage as a mode of building resilience and belonging in a setting where cultural continuity is at risk.[42] The project showed that helping refugees protect their traditions can build community, give people strength, and keep their sense of identity even during conflict and displacement.

Migration can lead to cultural dilution and generational gaps, especially when host societies do not recognize or support cultural expression.

The challenges of assimilation are amplified in protracted refugee situations. This is when 25,000+ individuals from the same country have been displaced for over 5 years.[43] At the beginning of 2019, there were over 16 million refugees in protracted situations. These individuals cannot return to their homeland but have not been granted permanent resident status in another country.[44] In such

35 Samvel Sukiasyan, "The Mental Health of Refugees and Forcibly Displaced People: A Narrative Review," *Journal of Migration and Health* 5, no. 4 (December 2024): 78-92, doi.org/10.17816/CP15552.
36 Joseph P. Gone and Laurence J. Kirmayer, "Advancing Indigenous Mental Health Research: Ethical, conceptual and methodological challenges," *Transcultural Psychiatry* 57, no. 2 (April 2020), doi.org/10.1177/1363461520923151.
37 *Global Trends: Forced Displacement in 2016* (Geneva: UNHCR, 2017), www.unhcr.org/us/media/global-trends-forced-displacement-2016.
38 Saqib Sheikh and Carolyn Morris, "Rohingya Cultural Preservation: An Internationally Coordinated Response Is Urgent," *New Lines Institute*, July 17, 2024, newlinesinstitute.org/state-resilience-fragility/complex-emergencies-and-humanitarian-crises/rohingya-cultural-preservation-an-internationally-coordinated-response-is-urgent/.
39 Sheikh and Morris, "Rohingya Cultural Preservation: An Internationally Coordinated Response Is Urgent."
40 "Strengthening capacities for safeguarding intangible cultural heritage in situations of conflict and forced displacement," UNESCO, accessed August 28, 2025, ich.unesco.org/en/projects/strengthening-capacities-for-safeguarding-intangible-cultural-heritage-in-situations-of-conflict-and-forced-displacement-00474.
41 "Safeguarding living heritage for resilience and recovery at Minawao Refugee Camp in Cameroon," *UNESCO*, October 23, 2023, ich.unesco.org/en/news/safeguarding-living-heritage-for-resilience-and-recovery-at-minawao-refugee-camp-in-cameroon-13496.
42 "Safeguarding living heritage for resilience and recovery at Minawao Refugee Camp in Cameroon."
43 "Protracted Refugee Situations Explained," *UNHCR*, January 28, 2020, www.unrefugees.org/news/protracted-refugee-situations-explained/.
44 "Protracted Refugee Situations Explained."

contexts, the pressure to adapt is strong, especially for second- and third-generation refugees who have never known their ancestral homeland. For them, identity is complicated due to feelings of uncertainty.[45]

A striking example of this is the Rohingya people, who have faced decades of statelessness and displacement in Bangladesh's Cox's Bazar camp. This camp is a long-term refugee camp. Many Rohingya children grow up speaking Bengali or English instead of their own language. Refugees often lack ways to protect their culture, children cannot go to school, and many have no legal recognition. Additionally, children have limited exposure to their community's oral history, rituals, and artistic traditions, which has led to the erosion of cultural identity for a whole generation.[46] More broadly, protracted displacement weakens institutions such as elder councils and religious schools. These play an important role in transmitting cultural knowledge and values.[47] Long-term refugees may also have restricted legal rights, limited access to formal education, and isolation from broader society.[48] Without sustained efforts to support cultural resilience, there is a risk of losing the intangible cultural heritage entirely. Not through a single rupture, but rather through slow and silent erosion.

While displacement presents many threats to cultural continuity, it also raises important questions about the global responsibility to protect diversity. Migration can lead to cultural dilution and generational gaps, especially when host societies do not recognize or support cultural expression. Migrants often struggle to preserve their traditions in new environments, leading to the slow erosion of language, practices, and identity over time.[49] However, migration can also create spaces for cultural exchange and innovation if host societies are willing to embrace these new cultures. By treating cultural heritage as essential rather than optional, there is room for inclusive spaces that honor the past and make room for a culturally rich and diverse future. In this way, preserving cultural heritage in displacement is not only about safeguarding memory but also about shaping a more resilient and connected global society.[50]

Preventative Approaches to Safeguarding Cultural Heritage

The 1954 Hague Convention established the first global treaty dedicated to the protection of cultural property in the event of armed conflict.[51] The convention highlights the need for physical measures. This includes inventories, protective markings, and the precautionary relocation of movable heritage. The Second Protocol to the Convention, adopted in 1999, requires that cultural protection be included in military plans.[52] This marks the shift to proactive action rather than reaction. As such, a lot of UNESCO's guidelines focus on preventative approaches, such as risk preparedness and community engagement.[53]

Several steps can be taken before conflict to lower the risk of losing cultural heritage. UNESCO lists four key actions: carry out risk preparedness checks, keep inventories of cultural property up to date, involve communities in preservation, and add heritage protection to military plans. These actions work best when used together.

45 *Global Trends: Forced Displacement in 2016*.
46 Sheikh and Morris, "Rohingya Cultural Preservation: An Internationally Coordinated Response Is Urgent."
47 Sheikh and Morris, "Rohingya Cultural Preservation: An Internationally Coordinated Response Is Urgent."
48 Anne-Lise Klausen et al., *Joint Evaluation: Evaluation of the protracted refugee situation (PRS) for Burundians in Tanzania* (Geneva: UNHCR, 2010), www.unhcr.org/us/media/joint-evaluation-evaluation-protracted-refugee-situation-prs-burundians-tanzania-anne-lise.
49 Alice Neikirk, Ray Nickson, and Shekhar Rijal, "Intangible Cultural Heritage and the Protection of Refugees and Refugee Camps," *Journal of Refugee Studies* 37, no. 1 (2024): 117-133, doi.org/10.1093/jrs/fead092.
50 "Dive Into Heritage," UNESCO World Heritage Center, accessed August 28, 2025, whc.unesco.org/en/dive-into-heritage/.
51 UNESCO, "1954 Convention."
52 "Second Protocol to the Hague Convention of 1954 for the Protection of Cultural Property in the Event of Armed Conflict," UNESCO, accessed August 28, 2025, unesdoc.unesco.org/ark:/48223/pf0000130696.
53 UNESCO, *UNESCO Strategy for the Protection of Culture in Emergencies*, ED.2015/WS/19, July 12, 2015, unesdoc.unesco.org/ark:/48223/pf0000233814.

Manuscripts moved to a safe area during conflict in Timbiktu, Mali (Credit: UNESCO Bureau of Mali)

Risk preparedness assessments are an important first step. They look at many possible dangers, such as war, natural disasters, and environmental threats. The goal is to find weak points and create clear emergency plans that can be used when needed. The International Centre for the Study of Preservation and Restoration of Cultural Property (ICCROM) provides a guide called *Risk Preparedness: A Management Manual for World Cultural Heritage*. It offers practical advice on risk analysis, training, and emergency documentation.[54] By taking a preventive approach, heritage professionals and site managers can reduce the likelihood of irreversible damage.

Inventories are another essential tool in pre-conflict preparedness. In situations of war or unrest, looting and destroying cultural objects occurs frequently. Keeping an up-to-date record of both movable and immovable cultural property supports timely evacuation when necessary and enables recovery efforts if loss occurs.[55] For objects that cannot be relocated, international law encourages the use of the Blue Shield emblem, which is a protective symbol that identifies cultural property and signals special status under the 1954 Hague Convention. While the emblem does not guarantee protection, it serves as a visual reminder of the obligation to safeguard cultural heritage, even in times of war.

Community involvement also plays a significant role in prevention. Often, local communities are closely connected to the heritage in question, both as caretakers and as those most directly affected by its loss.[56] Their participation in planning and preparedness, through workshops, mapping initiatives, or local response teams, can increase the effectiveness of preservation strategies. Community engagement also helps foster a sense of shared responsibility, which may contribute to faster and more coordinated responses in the event of a crisis.[57]

Finally, integrating cultural heritage protection into military planning is a key element of preventative work, though it may sometimes be overlooked. The Second Protocol to the 1954 Hague Convention calls on states to ensure that their military forces are trained to recognize and respect cultural sites during operations.[58] This includes the development of "no-strike" lists and the appointment of military units or officers responsible for heritage protection. Together, these preventative measures reduce the risk of cultural heritage loss before violence occurs. Although each situation requires a tailored approach, the broader goal remains the same: to ensure that heritage is

54 Stovel, *Risk Preparedness: A Management Manual for World Cultural Heritage*.
55 UNESCO, "1954 Convention."
56 "Heritage in Emergency," UNESCO, last updated March 6 2025, www.unesco.org/en/patrimonio-en-emergencia.
57 UNESCO, "Heritage in Emergency."
58 Craig Forrest, *International Law and the Protection of Cultural Heritage* (London: Routledge, 2012) doi.org/10.4324/9780203865194.

protected not only after conflict, but before it begins.[59]

Beyond the measures outlined above, there has been a recent push for the digitization of heritage as a mode of preservation.[60] This is especially effective in cases where the cultural heritage object/site cannot be removed from its original location or if the heritage is intangible. One such project is called Dive into Heritage (DIH) and utilizes technologies such as 3D models, interactive maps, geolocated narratives, and audiovisual materials. Considering the unique needs of each piece of heritage, this platform provides the flexibility to monitor and follow up on their protection. Though this technology is still in its early stages, it shows promise to alleviate stress before and during times of conflict.[61]

If preventive methods fall short, the Hague Convention and its Second Protocol also include emergency protection measures.[62] One of these measures is the ability for certain sites to be placed under special protection. These are normally safe shelter spaces intended to protect and shelter movable heritage. Examples of these refuges are museums or archival storage facilities, specifically chosen to be far from military bases and objectives. Once this protection is granted, all conflicting parties are required to respect the protected sites and refrain from any acts of destruction against them. To reinforce these protections, the Second Protocol mandates that states avoid using cultural properties for the purpose of military operations. This mandate falls under a larger umbrella of humanitarian law where parties are obliged to distinguish between military and civilian objectives, the latter of which includes cultural property.[63]

In recognition of the financial burden that may arise from the practical application of these protections, the Fund for Protection of Cultural Property in the Event of Armed Conflict was established under UNESCO.[64] This fund provides financial assistance and access to institutions engaged in emergency response to secure cultural heritage properties as soon as possible. Since its creation during the Second Protocol, the fund has supported heritage protection efforts in conflict zones across the world, such as in Mali, Syria, and Yemen.[65] Beyond legal frameworks, international organizations such as ICCROM and Blue Shield work with local and national leaders to implement the emergency response plans outlined in their risk assessment and military strategies.[66] There is a particular focus on bridging the gap between military and civilian institutions in high-risk areas.[67]

A notable example of cultural preservation and its impact on cultural heritage can be seen in Timbuktu, Mali. Timbuktu is an old city, with 19 mosques and mausoleums all considered to have outstanding historical and architectural value.[68] Beyond the buildings, there were also 285,000 manuscripts that have both tangible and intangible value, especially in the realm of Islamic scholarship and learning. Some of the manuscripts date back to as early as 1200.[69] In 2012, when conflict broke out in Timbuktu, many of the mosques and mausoleums were targeted and destroyed. Such deliberate attacks like these on cultural heritage can constitute war crimes.

However, in a great show of cultural resilience and togetherness,

59 Forrest, *International Law and the Protection of Cultural Heritage*.
60 Julian Lucas, "UNESCO's Quest to Save the World's Intangible Heritage," *The New Yorker*, March 2, 2024, www.newyorker.com/culture/the-weekend-essay/unescos-quest-to-save-the-worlds-intangible-heritage.
61 UNESCO World Heritage Center, "Dive Into Heritage."
62 UNESCO, "1954 Convention."
63 UNESCO, "Second Protocol to the Hague Convention of 1954 for the Protection of Cultural Property in the Event of Armed Conflict."
64 "Fund for the Protection of Cultural Property in the Event of Armed Conflict," UNESCO, April 2, 2025, www.unesco.org/en/heritage-armed-conflicts/international-fund.
65 UNESCO, "Fund for the Protection of Cultural Property in the Event of Armed Conflict."
66 Aparna Tandon, "First Aid to Cultural Heritage in Times of Crisis - Toolkit," *ICCROM*, accessed August 28, 2025, www.iccrom.org/publication/first-aid-cultural-heritage-times-crisis-toolkit.
67 "Protecting Heritage During Armed Conflict," The Blue Shield, accessed August 28, 2025, theblueshield.org/.
68 Anja-Silvia Goeing, "Timbuktu and Premodern Traditions of Learning: A Unesco Heritage Site in Danger," *Harvard University*, accessed August 28, 2025, goeing.scholars.harvard.edu/timbuktu-and-premodern-traditions-learning-unesco-heritage-site-danger.
69 Goeing, "Timbuktu and Premodern Traditions of Learning."

many of the manuscripts that resided in nearby libraries and museums were saved.[70] Local residents, librarians, and historians secretly collaborated to evacuate over 200,000 historic manuscripts by hiding them in metal trunks and transporting them to the capital city, Bamako.[71] This effort was supported by UNESCO and the Prince Claus Fund, but the local community drove the effort to recognize the manuscripts as both scholarly records and pieces of cultural identities.[72] The success of the manuscripts' survival emphasizes the importance of preparedness and local engagement for protecting heritage. Today, there are several reconstruction programs ongoing to restore both physical buildings and the linked intangible heritage.[73]

These strategies for preservation show the growing recognition of cultural heritage as a humanitarian need. Through preventative methods, UNESCO highlights the role that heritage plays in post-conflict resilience and reconstruction.[74] With new and innovative tools for digital documentation, the preservation of both tangible and intangible heritage can live beyond physical erosion and the loss of past generations.[75] The example in Timbuktu demonstrates the practical application of principles in real-world crisis situations. At the same time, the destruction of cultural buildings and their ongoing reconstruction illustrate cultural resilience and memory. In this way, safeguarding culture is about more than protecting the past; it is about making space for the current and future generations through continuity and healing.[76]

Historical Case Study: Rwandan Genocide

The Belgian colonial administration fundamentally reshaped Rwanda's ethnic identities, marking the start of a clear division between the Hutus and Tutsis through the implementation of identity cards.[77] The rigid classification turned social groups into divided ethnic groups, which ignited resentment that fueled later violence. The genocide began on April 6, 1994, when President Habayarimana was assassinated after his plane was shot down. A 100-day campaign followed where 800,000 to 1 million Tutsis and moderate Hutus were killed.[78] This amounted to around 10 percent of the Rwandan population, making it one of the most rapid genocides of the 20th century.[79]

Destruction of cultural heritage and property unfolded alongside the violence. Further, the massive loss of people resulted in the loss of intangible cultural heritage and a lack of cultural continuity.[80] In the decades following the genocide, Rwandans have taken on the task of rebuilding and preserving their cultural heritage while navigating the political, social, and historical tensions.[81] As the genocide unfolded, there was a calculated effort to destroy cultural symbols and properties that represented Rwanda's shared history.[82] Particularly, this meant the destruction of sacred sites like

70 Joshua Hammer, "The Brave Sage of Timbuktu: Abdel Kader Haidara," *National Geographic*, April 21, 2024, www.nationalgeographic.com/culture/article/140421-haidara-timbuktu-manuscripts-mali-library-conservation.
71 "Manuscripts," *CSMC Hamburg*, last updated June 22, 2020, www.csmc.uni-hamburg.de/timbuktu/manuscripts.html.
72 Naveena Kottoor, "How Timbuktu's manuscripts were smuggled to safety," BBC News, June 4, 2013 www.bbc.com/news/magazine-22704960.
73 "About Timbuktu," UNESCO, accessed August 28, 2025, whc.unesco.org/en/canopy/timbuktu/.
74 "A new strategy reinforces protection of heritage at risk," *UNESCO*, April 20, 2023, www.unesco.org/en/articles/new-strategy-reinforces-protection-heritage-risk.
75 UNESCO World Heritage Center, "Dive Into Heritage."
76 "Cultural Heritage: 7 Successes of UNESCO's Preservation Work," UNESCO, accessed August 28, 2025, www.unesco.org/en/cultural-heritage-7-successes-unescos-preservation-work.
77 "Rwanda: A Brief History of the Country," United Nations, accessed August 28, 2025, www.un.org/en/preventgenocide/rwanda/historical-background.shtml.
78 United Nations, "Rwanda: A Brief History of the Country."
79 Philip Gourevitch, "After the Genocide," *The New Yorker*, December 10, 1995, www.newyorker.com/magazine/1995/12/18/after-the-genocide.
80 James Cuno, *Cultural Heritage and Mass Atrocities*, chap. 20 (Los Angeles: Getty Publications, 2022), www.getty.edu/publications/cultural-heritage-mass-atrocities/part-3/20-sands-rai/.
81 "UNESCO Supports a Culture of Peace in Rwanda Thirty Years after the Genocide against the Tutsi," *UNESCO*, June 4, 2024, www.unesco.org/en/articles/unesco-supports-culture-peace-rwanda-thirty-years-after-genocide-against-tutsi.
82 "Memorial sites of the Genocide: Nyamata, Murambi, Gisozi and Bisesero," UNESCO, accessed August 28, 2025, whc.unesco.org/en/list/1586/.

churches, the loss of oral tradition, the burning of archives, and the dismantlement of community institutions.

Large community churches such as Nyamata and Nyange became scenes of mass killing.[83] At Nyamata Church, an estimated 10,000 Tutsis were murdered after seeking refuge inside. Today, the bloodstained clothing and remains of the victims are preserved as a reminder of the violence that unfolded in this sacred site. In Nyange Parish, the local militia had collaborated with clergy and the authorities to bulldoze the church and those hiding inside it. This marked a severe betrayal of spiritual trust, which had been a core pillar of the Rwandan identity.[84] As noted in UNESCO heritage reports, such sites were more than physical shelters.[85] They were cultural monuments that contained oral traditions, ancestral relics, and a space for the sharing of intergenerational knowledge. Thus, deliberately targeting churches was both a symbolic and strategic move that aimed to sever communal bonds.[86] Moreover, the International Criminal Court has recognized that the cultural destruction, especially of sacred sites, disrupts the continuity of cultural practices and constitutes an attack on a community's right to existence.[87]

Memorial exhibit at Nyamata, Rwanda for the remembrance of the genocide (Credit: Fanny Schertzer)

In the aftermath of the genocide, Rwanda launched a national effort to reconcile and heal from the widespread violence and destruction that had taken place. Memorials and education were central to this process. The government preserved genocide sites and established educational institutions with the purpose of maintaining the memory of those lost in conflict. The Kigali Genocide Memorial, along with regional sites in Murambi, Nyamata, and Bissero, serves as burial grounds and museums. They hold the remains of tens of thousands of victims and have been a key part in the remembrance of the tragedy. These spaces are now recognized as UNESCO World Heritage Sites and are equipped with documentation centers, survivor archives, and trauma counseling services.[88]

Beyond preserving memory, these sites are a part of a broader national effort to integrate genocide education into public curricula. In collaboration with UNESCO, among other international bodies, the Rwandan government developed educational programs to teach the historical causes and consequences of the genocide. The curriculum places an emphasis on civic responsibility, a reflection

83 Rhiannon Stephens, *Reconstructing Post-Genocide Heritage in Rwanda*, chap. 17 (London: Routledge 2017), www.researchgate.net/publication/321944803_Reconstructing_Post-Genocide_Heritage_in_Rwanda.
84 Stephens, *Reconstructing Post-Genocide Heritage in Rwanda*.
85 UNESCO, "Genocide against the Tutsi."
86 UNESCO, "Genocide against the Tutsi."
87 *Policy on Cultural Heritage* (The Hague: International Criminal Court, 2021), www.icc-cpi.int/sites/default/files/itemsDocuments/20210614-otp-policy-cultural-heritage-eng.pdf.
88 UNESCO, "UNESCO Supports a Culture of Peace in Rwanda Thirty Years after the Genocide against the Tutsi."

Gacaca, Rwanda's justice system, involves victims and witnesses from a neighborhood (Credit: Scott Chacon)

on hate propaganda, and the importance of peacebuilding and national unity. Through the inclusion of survivor testimonials and critical analysis of colonial legacies, the curriculum aims to provide a holistic understanding of the genocide and the buildup.

One of the most notable efforts to rebuild cultural identity and justice in post-genocide Rwanda was the revival of the *Gacaca* court system. *Gacaca* was a traditional form of community justice used in pre-colonial Rwanda. Elders would gather in public spaces to resolve local disputes through dialogue, truth-telling, and communal accountability.[89] After the genocide, the Rwandan government adapted this system to address the overwhelming number of genocide-related crimes. With more than 120,000 people detained and a formal justice system that had been largely destroyed, there was an urgent need for a solution that could deliver justice while also rebuilding communities.[90] In 2002, *Gacaca* was officially reinstated with the goal of handling lower-level genocide cases through a participatory and localized approach. Over the course of a decade, these grassroots courts tried nearly 1.2 million cases through more than 12,000 community courts.

The *Gacaca* process emphasized confession, apology, and reintegration over punishment alone. In many ways, it reflected a broader cultural value of communal reconciliation rather than retribution.[91] Survivors, perpetrators, and local leaders often came face-to-face, recounting the events of 1994 in emotionally charged public forums. This was a difficult process, as many testimonies were deeply traumatic, and the lack of formal legal protections raised concerns among human rights observers.[92] However, for many Rwandans, *Gacaca* allowed them to reclaim a sense of agency in rebuilding communities. There was an increase in local participation in justice, which also encouraged collective healing through shared responsibility and storytelling.[93]

Despite its strengths, the *Gacaca* system was far from perfect. There were often inconsistencies in verdicts, false accusations, and the exclusion of crimes committed by the Rwandan Patriotic Front (RPF; the group that governed the country).[94] Yet, even with its flaws, *Gacaca* remains one of the few large-scale examples of a society drawing from its own cultural

89 Maureen Laflin, "Gacaca Courts: The Hope for Reconciliation in the Aftermath of the Rwandan Genocide," *University of Idaho College of Law*, May 2023, digitalcommons.law.uidaho.edu/cgi/viewcontent.cgi?article=1502&context=faculty_scholarship.
90 Human Rights Watch, "Rwanda: Mixed Legacy for Community-Based Genocide Courts," news release, May 31, 2011, www.hrw.org/news/2011/05/31/rwanda-mixed-legacy-community-based-genocide-courts.
91 Timothy Longman, *Memory and Justice in Post Genocide Rwanda* (Cambridge: Cambridge University Press, 2017) www.cambridge.org/core/books/memory-and-justice-in-postgenocide-rwanda/B210063216D7C6BFC5038D5563834815.
92 Human Rights Watch, "Rwanda: Mixed Legacy of Community-Based Genocide Courts."
93 Longman, *Memory and Justice in Post Genocide Rwanda*
94 Human Rights Watch, "Rwanda: Mixed Legacy of Community-Based Genocide Courts."

history to respond to mass atrocity. It serves as a reminder that heritage is found in many forms, including the practices that help communities heal, rebuild, and pursue justice on their own terms.

The impact of the Rwandan Genocide and its destruction is still seen today. Of course, the mass loss of the Tutsi population led to a break in cultural continuity, especially those oral traditions that had been passed down through generations. Furthermore, the destruction of religious and community sites severed communal and social bonds that took many years to heal.[95] For Rwanda, healing was done through the memorialization of burial sites and churches, the revival of the Gacaca system, and survivor testaments. The prioritization of this preservation is a form of resilience and a mode of healing for many people.[96] Considering the cultural diversity across our world, community healing and the restoration of cultural heritage will inevitably look different from place to place. [97] However, Rwanda demonstrates how memory, justice, and tradition can work together to rebuild what violence attempted to erase.

Current Status

The Role of Social Media in the Restoration of Languages, Arts, and Cultural Traditions

Social media is a powerful way to save moments, ideas, and voices. Online platforms let communities create, share, and protect knowledge beyond physical spaces. As more people get online, social media helps document languages, bring back art forms, and connect people across distances. These digital spaces are both archives and places where culture is practiced and passed down. New projects by UNESCO and local groups show that these platforms are more than tools for talking. They are key spaces for keeping culture alive and strong.

Social media has increased people's ability to engage with culture on a large platform. As a result, UNESCO has worked to integrate more social media-based initiatives into their plans. For example, the Social Media 4 Peace (SM4P) uses online platforms to promote cultural resilience and oppose harmful online content.[98] It works to personalize strategies per geographical area to capture cultural nuances. Since 2021, the project has been implemented in Bosnia and Herzegovina, Colombia, Indonesia, and Kenya. In 2025, efforts were expanded to Iraq, Kyrgyzstan, and South Africa.[99] In Bosnia and Herzegovina, SM4P worked with media outlets and youth groups to create counter-narratives against hate speech, especially surrounding ethnic tensions. In Colombia, the initiative partnered with journalists and Indigenous communities to promote online storytelling that focuses on peacebuilding and cultural memory.[100] Similarly, the Sharing Humanity campaign helped encourage the clear expression of cultural heritage to help prolong it.[101] It emphasizes the heritage beyond physical artifacts and focuses on song, dance, and other forms of cultural expression.[102]

Social media also bridges distance and time, which allows for

95 UNESCO, "Memorial sites of the Genocide: Nyamata, Murambi, Gisozi and Bisesero."
96 Longman, *Memory and Justice in Post Genocide Rwanda*
97 UNESCO Intangible Cultural Heritage, "Living heritage in emergencies."
98 "How We Work?" UNESCO, accessed August 28, 2025, www.unesco.org/en/social-media4peace/how-we-work?hub=180580.
99 UNESCO, "How We Work?"
100 United Nations Bosnia and Herzegovina, "Meet the Youth Champions engaging in Social Media 4 Peace in Bosnia and Herzegovina!" news release, June 2, 2022, bosniaherzegovina.un.org/en/184529-meet-youth-champions-engaging-social-media-4-peace-bosnia-and-herzegovina.
101 "UNESCO unveils its new Global Campaign: Sharing Humanity," UNESCO, July 6, 2023, www.unesco.org/en/articles/unesco-unveils-its-new-global-campaign-sharing-humanity.
102 UNESCO, "UNESCO unveils its new Global Campaign: Sharing Humanity."

displaced or migrated individuals to connect back to their larger communities. Oftentimes geography is what ties a community together, but with the use of social media, older generations can pass down important cultural practices and knowledge to younger generations that grew up far away from their cultural homeland. An example of this is the Missing Scripts project, which is focused on digitizing underrepresented writing systems so that Indigenous writing systems can be used online and span generations and long distances.[103] Beyond languages, elders can share songs, dances, stories, and other oral performances.

One of the areas hit hardest by globalization is linguistic diversity. It is estimated that a language is lost every 14 days.[104] Social media has allowed for some languages to continue to be used. Online conversations in one's native language promote positive spaces to foster identity and pride in culture. This has been seen in studies of Punjabi and Setswana speakers on Facebook and X, where a strong online community led to a strengthening of a sense of community.[105] Within these spaces, members not only posted in their native languages but also shared jokes, idioms, and everyday expressions that do not always translate well into dominant languages. These informal exchanges allowed for a free-flowing and natural expression of culture in a way that may not be possible on an institutional level. Among younger generations, this encourages engagement with culture, as with globalization it may be difficult for them to get the same practice in their native tongue as their predecessors. However, social media is helping to reverse this trend and help save these languages.

Despite the benefits of social media, challenges still persist. Approximately 5.2 billion people have access to social media, which accounts for only about 68 percent of the world population.[106] Many other people do not have access to it, which makes it harder for smaller communities to use these tools. Oftentimes, it is these communities that are most in need of additional preservation tools.[107] Additionally, due to the emerging and ever-changing nature of social media platforms, regulations and guidelines around ownership of digital content are still developing. UNESCO emphasizes the importance of media literacy and freedom of expression on digital platforms.[108] They advocate that governments should work with social media corporations to form community-based guidelines that allow for agency of individuals while limiting the threat of violence.[109]

It is estimated that a language is lost every 14 days.

A UNESCO survey found that 62 percent of creators do not check for accuracy before sharing content with their audiences.[110] This is a critical issue, as misinformation can be the root of hate speech and undermine democratic processes. In response to this, as of 2024, UNESCO has partnered with the Knight Center for Journalism in the Americas to provide media literacy training for over 10,000 digital creators.[111] The aim of this training is to have an open discussion about building trust with online communities, the ethical use of online platforms for shaping public opinion, and the importance of media literacy. According to

103 UNESCO, "Digital preservation of Indigenous languages: At the intersection of technology and culture."
104 Rebecca Metcalf, "Death of a Language: Understanding Endangered Languages and Language Extinction," June 13, 2024, rubric.com/en-us/dying-languages/.
105 Shahid Minhas and Abiodun Salawu, "Preserving and Promoting Indigenous Languages: Social Media Analysis of Punjabi and Setswana Languages," *Journal of Asian and African Studies* (April 2024): 112-117, doi.org/10.1177/00219096241243061.
106 Ani Petrosyan, "Number of internet and social media users worldwide as of February 2025," Statista, April 1, 2025, www.statista.com/statistics/617136/digital-population-worldwide/.
107 "Cultural Preservation in the Digital Age: How We Can Use Technology to Share and Preserve Indigenous Heritage," Nima Corporation, accessed August 28, 2025, nimacorporation.com/technology/cultural-preservation-digital-age/.
108 "Guidelines for the Governance of Digital Platforms," UNESCO, accessed August 28, 2025, www.unesco.org/en/internet-trust/guidelines.
109 UNESCO, "Guidelines for the Governance of Digital Platforms."
110 "UNESCO trains digital content creators to become trusted voices online," UNESCO, November 8, 2024, www.unesco.org/en/articles/unesco-trains-digital-content-creators-become-trusted-voices-online.
111 UNESCO, "UNESCO trains digital content creators to become trusted voices online."

digital creators who took part in this training, the discussions they had have led to increased awareness of their responsibilities as content creators.

A recent example of the use of social media for the preservation of culture can be seen on TikTok. TikTok is a platform composed of creators and consumers from all generations (largely younger populations) from all over the world.[112] In China, this platform was used to preserve musical heritage, which, in the pre-digital era, was intangible. Through the use of the short-form style of TikTok, creators combined the traditional music with special effects and visual storytelling to make it more accessible and engaging for users.[113] Due to TikTok's recommendation algorithm, the videos were able to reach a larger audience, including those who were not familiar with such cultural practices. Moreover, a study conducted in early 2025 found that users were more likely to engage with such heritage content on a platform like TikTok due to the app's short and engaging videos.[114] This is as opposed to long-form content on platforms like YouTube. These features both increased the awareness of this particular intangible heritage and also encouraged audience participation through features such as comments and duets. This example shows how social media can be an effective tool in not only providing a platform for preservation but also a mode of education.

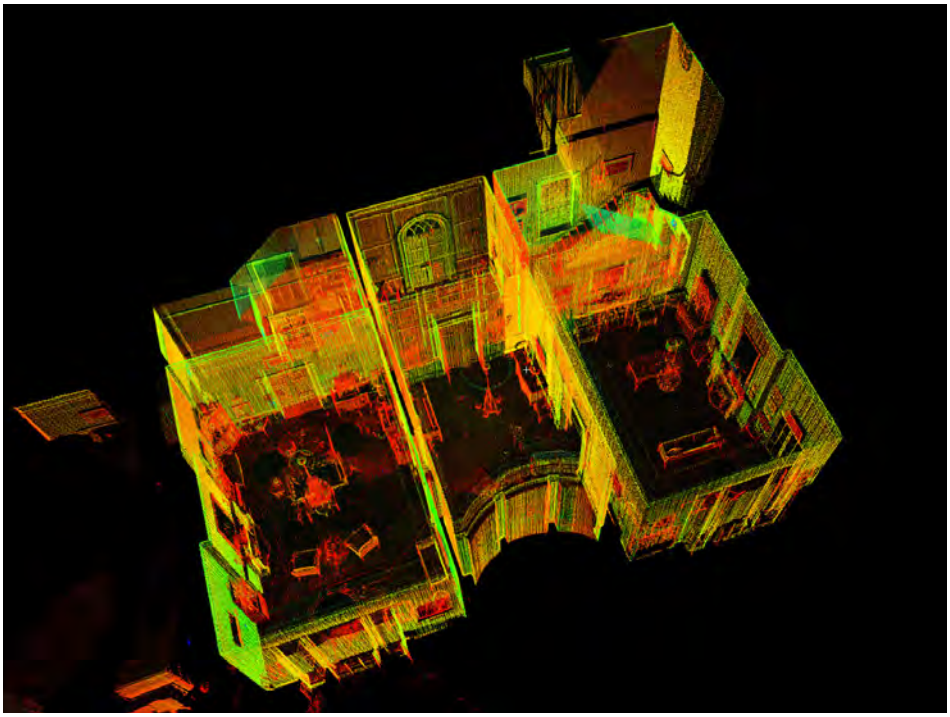
Emerging Technologies for the Preservation of Cultural Heritage

New technologies are developed every year to improve preservation techniques and to revitalize what has been lost. There are many new tools, including digital modeling, robotics, advanced materials engineering, and artificial intelligence. These tools are often a safer option to use in conflict zones, as they limit physical human interaction on-site. Essentially, these technologies, along with proper infrastructure, have the potential to bridge the past and future through the preservation of heritage.

One example of innovation in partnership with UNESCO is Dive into Heritage (DIH). The purpose of this initiative is to digitally document world heritage sites in the Middle East and North Africa regions.[115] This project utilizes 3D models, geolocation, and interactive maps to allow monitoring of these sites and virtual visitation. The interactive maps also have elements of intangible cultural heritage woven in so that users can fully immerse themselves in the culture. At an event during UNESCO's 45th World Heritage Committee session in 2023, DIH had a virtual reality exhibition that illustrated the 3D visualizations they had built of World Heritage sites like Bahla Fort and Hegra.[116] Through corporate partnerships with the first Integra and Deusens, DIH includes a portion that allows viewers to get a "firsthand" point of view of the sites. For instance, the Giza pyramids are shown from the perspective of a pilot who explains much of the history of the site and builds a narrative around Egypt's history.[117] This is an ongoing project that is expected to continue developing in years to come.

Technology has also helped improve preventative preservation techniques. CyArk, a nonprofit organization, utilizes laser scanning and digital modeling to create archives of sites such as Pompeii and Angkor.[118] The digital models built through this can be used as a way to remember and reconstruct sites in case of destruction or loss. Additional advances are also being

112 Jianjian Wang, *Preservation and promotion of China's musical cultural heritage on the internet. Heritage Science* 9 (2021), doi.org/10.1186/s40494-021-00612-2
113 Huimin Cao, "Exploring the promotion of musical intangible cultural heritage under TikTok short videos," *Scientific Reports* 15 (2024), doi.org/10.1038/s41598-025-09723-3.
114 Cao, "Exploring the promotion of musical intangible cultural heritage under TikTok short videos."
115 UNESCO World Heritage Center, "Dive Into Heritage."
116 UNESCO World Heritage Center, "Dive Into Heritage."
117 Esther Orera, "'Dive into Heritage': la experiencia inmersiva que une a las aragonesas Integra y Deusens con la UNESCO," *Cadena SER*, February 2, 2025, cadenaser.com/aragon/2025/02/02/dive-in-heritage-la-experiencia-inmersiva-que-une-a-las-aragonesas-integra-y-deusens-con-la-unesco-radio-zaragoza/.
118 "What We Do," CyArk, accessed August 28, 2025, www.cyark.org/whatwedo/.



Laser Scanning shows interior of Tudor Palace (Credit: CyArk)

made in helping preserve physical artifacts.[119] For the most part, these advancements come in the form of nanoparticles as protective coatings. These coatings help preserve physical articles by providing UV-, corrosion-, and rain-resistant barriers. These methods help slow the degradation of fragile artifacts.

Efforts to preserve intangible cultural heritage have also advanced through the use of digital tools. Platforms such as Mukurtu CMS and the Passamaquoddy Peoples' Knowledge Portal allow communities to record and manage cultural materials like oral histories and traditional knowledge.[120] These platforms ensure that communities retain control over how their heritage is accessed and shared. In addition, new technologies that combine generative artificial intelligence make it possible to recreate and experience traditions in engaging ways.[121] Projects like Montenegro's WRECKS4ALL further expand access by digitally mapping submerged heritage sites and providing virtual experiences that connect people to cultural practices linked to those sites.[122] These methods offer new ways to safeguard and transmit traditions that might otherwise be lost.

Despite the potential of these new technologies, there are also several risks and limitations. For many states, the high-cost and infrastructural requirements deter them from integrating these technologies into their preservation efforts. Oftentimes, these technologies also require a large support staff and routine maintenance, which makes them more than a one-time cost. Specifically, many people are needed to parse through large data files and ensure accurate cataloging of artifacts. These databases need to be updated as new knowledge is gathered or traditions are developed.

Particularly in conflict zones and post-conflict zones, it is particularly difficult to implement such technologies due to instability and competing priorities. Further, there are ethical concerns about the ownership and representation of digital heritage. While digital archives are important in the preservation of heritage, they are often created and stored by external institutions.[123] With the increasing digitization of archives, communities may lose control over their heritage. According to some scholars, how these artifacts are digitized also poses concerns. In large-scale digitization projects, an external (often foreign) organization controls the archives and the technology. Thus, their systems of organization decide how the cultural materials are cataloged,

119 María Antonia Diaz Mendoza, Emiro De La Hoz Franco, and Jorge Eliecer Gómez Gómez, "Technologies for the Preservation of Cultural Heritage—A Systematic Review of the Literature," *Sustainability* 15, no. 2 (January 2023), doi.org/10.3390/su15021059.
120 Maria Skublewska-Paszkowska et al., "3D technologies for intangible cultural heritage preservation—literature review for selected databases," *Heritage Science* 10 (2021), doi.org/10.1186/s40494-021-00633-x.
121 Skublewska-Paszkowska et al., "3D technologies for intangible cultural heritage preservation—literature review for selected databases."
122 Skublewska-Paszkowska et al., "3D technologies for intangible cultural heritage preservation—literature review for selected databases."
123 Neha Gupta and Ramona Nicholas, "Being Seen, Being Heard: Ownership of Archaeology and Digital Heritage," *Archaeologies* 18 (2022): 495-509, link.springer.com/article/10.1007/s11759-022-09465-y.

accessed, and even interpreted. In future initiatives for digitalization, it is important to prioritize community authority and shared governance to ensure that heritage is preserved in a manner that reflects the values of its originating community.

With proper discussions and guidelines to manage the challenges that come with new technology, heritage can be better protected. In the future, it is very likely that there will be even greater integration of advanced technology in preserving heritage. Underwater robotics and autonomous scanning systems will allow for the documentation of submerged and fragile sites.[124] Artificial intelligence (AI) models have been trained to recreate lost artifacts and buildings from the little archival imagery there is.[125] As this technology becomes stronger, there could be new opportunities for restoration that were not previously possible. Pre-conflict, the use of data analytics and predictive models can allow for assessing climate- and conflict-related risks.[126] This will allow states to prioritize conservation efforts proactively.

Ultimately, emerging technologies are powerful tools that can aid in the safeguarding of both tangible and intangible cultural heritage. However, their success depends on the development of proper ethical frameworks, community-based learning, and the collaboration of various groups. Of course, digital renderings and technology itself cannot replace cultural heritage, but they can prolong the legacies of cultures that may have been previously lost.

Sustainable Development Goals

The 2030 Sustainable Development Agenda has 17 Sustainable Development Goals (SDGs). These goals are in place to better humanity and encourage progress on different fronts. They act as guidelines for the international community to build policy frameworks around. Each of the 17 goals has global indicators. They provide a quantitative way to measure progress towards the goals.[127] When it comes to the topic of cultural heritage in conflict zones, several of the goals apply- notably, Goals 11 and 16.

Goal 11 is about the development of sustainable cities and communities.[128] In this case, sustainable refers to the long-term preservation of cultural heritage. SDG 11 explicitly hopes to "strengthen efforts to protect and safeguard the world's cultural and natural heritage" in target 11.4.[129] However, implementation is difficult because of a lack of reliable indicators. SDG 11.4 currently has only one quantitative indicator (11.4.1), which tracks public/private spending per capita on preservation.[130] However, global reporting is inconsistent and incomplete. Therefore, it is important to consider how to more effectively measure progress towards this target. Target 11.4 is particularly relevant in conflict zones since cultural sites are susceptible to accelerated decay or destruction. Rebuilding these sites after conflict helps communities recover. These efforts are an important part of making cities more socially and culturally sustainable, as they give displaced people a way to reconnect with their heritage and strengthen social ties.[131]

Goal 16 is focused on peace, justice, and the development of strong institutions.[132] This is essential for creating accountable institutions globally. In conflict zones, these larger institutions serve two main purposes. During the conflict, these institutions

124 Ramiro dell'Erba, Claudio Moriconi, and Alfredo Trocciola, "Can underwater robotics technology save submerged Cultural Heritage?," *arXiv preprint* (March 2020), doi.org/10.48550/arXiv.2003.14149.
125 William Weir, "How AI can reveal new understandings of the past — and the future," *Yale News*, September 11, 2024, news.yale.edu/2024/09/11/how-ai-can-reveal-new-understandings-past-and-future.
126 Frédéric Kaplan, "The Venice Time Machine," *DocEng '15: Proceedings of the 2015 ACM Symposium on Document Engineering* (September 2015): 73, dl.acm.org/doi/10.1145/2682571.2797071.
127 United Nations, "THE 17 GOALS."
128 United Nations, "THE 17 GOALS."
129 "Goal 11," United Nations, accessed August 28, 2025, sdgs.un.org/goals/goal11#targets_and_indicators.
130 Huadong Guo, *Big Earth Data in Support of the Sustainable Development Goals (2022)—The Belt and Road*, chap. 5 (Singapore: Springer, 2024), link.springer.com/chapter/10.1007/978-981-97-3278-4_5.
131 Guo, *Big Earth Data in Support of the Sustainable Development Goals (2022)—The Belt and Road.*
132 "Goal 16," United Nations, accessed August 28, 2025, sdgs.un.org/goals/goal16.

are there to protect cultural heritage from destruction, looting, and illicit trafficking.[133] This is important because often, when the government does not take action to protect heritage, much of it can be lost, which affects post-conflict recovery. Post-conflict, local and community-based peace and justice institutions are important. Community-led memorials, voluntary restoration projects, and local councils help people heal. They also allow for the enforcement of justice in terms of the locals. This was seen in the aftermath of the Rwandan genocide. The Gacaca Courts were a form of community-based justice that focused on accountability, honesty, and reintegration over punishment. It was a way for the local community to engage in justice. This aligns with target 16.7, which calls for ensuring "responsive, inclusive, participatory, and representative decision-making at all levels."[134]

By aligning with SDG 11 and SDG 16, the frameworks that support the protection of cultural heritage in conflict zones can be strengthened. Delegates should utilize these indicators.

Bloc Analysis

Points of Division

The preservation of cultural heritage varies widely around the world. Some countries already have strong systems supported by laws and funding, and they actively promote, finance, and advise international preservation efforts. Their frameworks clearly link cultural protection with national identity and development. These states tend to advocate for stronger international cooperation, legally binding conventions, and the expansion of UNESCO-led field missions and emergency response teams to safeguard heritage during armed conflicts.

Other countries are still building such systems but face delays due to priorities like economic growth, infrastructure, or security. Although they value cultural preservation, limited resources and political challenges make full implementation difficult. These states often call for greater access to international funding, technical support, and capacity-building programs to balance preservation with national development.

Finally, some states choose not to adopt formal preservation policies. This may stem from cultural or political differences, for instance, favoring community-based approaches or having other national priorities. They may resist binding UNESCO mandates and instead promote cultural sovereignty, local management, and flexible, non-interventionist preservation strategies. Despite these differences, steady progress can make comprehensive and effective preservation possible everywhere.

States with Established National Frameworks and Consistent Global Engagement in Cultural Preservation Efforts

States in this bloc are characterized by well-developed frameworks for protecting their cultures. For the most part, these states are not active conflict zones, which allows them to more effectively implement their respective frameworks. However, these states have experienced various forms of conflict in their history, which has shaped and boosted their commitment to the protection of cultural heritage. For example, the Republic of Korea's (RoK) Cultural Heritage Protection Act was first passed in 1962 following the Korean War.[135] The conflict had highlighted the dependence of

133 "Combatting trafficking in cultural goods," European Commission, January 13, 2023, culture.ec.europa.eu/cultural-heritage/cultural-heritage-in-eu-policies/protection-against-illicit-trafficking.
134 "Goal 16 – Targets and Indicators," United Nations, accessed August 28, 2025, sdgs.un.org/goals/goal16#targets_and_indicators.
135 "Republic of Korea," UNESCO World Heritage Convention, accessed August 28, 2025, whc.unesco.org/en/statesparties/kr.

national identity on shared cultural memory and physical artifacts. This legislation, refined throughout the years, established mechanisms for the protection of historical monuments, folk traditions, and Living National Treasures.[136] Similarly, in Western European nations, such as France, Germany, and Spain, cultural preservation systems emerged in the aftermath of World War II. During this conflict, important cultural sites such as the abbey at Monte Cassino and the historical town of Warsaw were destroyed. This mass destruction prompted the ratification of the 1954 Hague Convention.

In 1969, Italy established the Carabinieri Command for the Protection of Cultural Heritage (TPC) as a form of proactive cultural preservation. This group investigates art theft, illicit excavations, and trafficking alongside UNESCO and other international groups.[137] In January 2025, an operation in Naples uncovered an illegal tomb-raiding network that was excavated under a residential building. Through their efforts, they were able to recover hundreds of artifacts.[138] On the international front, the TPC partners with UNESCO's Unite4Heritage initiative, where they deploy their heritage protection teams to train and aid heritage experts in conflict-affected countries like Iraq, Lebanon, and Mexico.[139]

These states would likely advocate for strengthening international legal instruments like the 1954 Hague Convention and Second Protocol, funding and supporting operations to protect heritage, and sharing expertise through UNESCO field missions and capacity-building initiatives. This bloc may push for penalties after the deliberate destruction of cultural sites and encourage coordination with Interpol and the International Criminal Court to combat looting and illicit trade.

States with Developing Cultural Preservation Frameworks

Countries in this bloc have taken steps to initiate the creation of cultural preservation frameworks. However, due to competing priorities, governmental capacity, and socio-economic limits, their efforts are sporadic or delayed. For instance, India's efforts began under the 1904 Ancient Monuments Preservation Act later developed into the 1958 Act.[140] Measures such as the Archaeological Survey of India and the National Mission on Monuments and Antiquities are still maintained. However, enforcement of these initiatives is hindered by looting, illicit trafficking, and a lack of resources for heritage policies.[141] India is currently working with UNESCO to prepare their nominations to inscribe the Maratha forts as a World Heritage Site.[142] This is an important step in aligning national frameworks with established global standards. With official recognition as a World Heritage Site, India will be able to access a larger pool of funding and resources for the continued conservation of the structure and its integrity.[143]

Similarly, in the Philippines, under the National Cultural Heritage Act of 2009, a registry system was created to set rules for

136 Yilsoon Paek and Minjae Zoh, "The Role of Heritage in the Context of Dictatorship, Then Democracy: South Korea's Heritage Management Between 1961 and 1993," *Heritage & Society* 18, no. 2 (2025): 210-224, doi.org/10.1080/2159032X.2025.2483149.
137 Luigi Spadari, "CARABINIERI TPC, since 1969 in defence of our cultural heritage," *The CoESPU Magazine* 4 (2021): 8-13, www.coespu.org/articles/carabinieri-tpc-1969-defence-our-cultural-heritage.
138 Angela Giuffrida, "How Italy's Carabinieri cultural heritage protection squad foiled tomb-raiders," *The Guardian*, January 2, 2025, www.theguardian.com/world/2025/jan/02/how-italys-carabinieri-cultural-heritage-protection-squad-foiled-tomb-raiders
139 Jean Querelle, "Fighting art crime and protecting heritage across the world: meet Italy's "Blue Helmets of Culture,"" *European Heritage Tribune*, May 19, 2022, heritagetribune.eu/world/fighting-art-crime-and-protecting-heritage-across-the-world-italys-blue-helmets-of-culture/.
140 "Evolution of Heritage Laws in India from the Colonial Period to 1947," Yours Heritologically, accessed August 28, 2025 yoursheritologically.in/evolution-of-heritage-laws-in-india-from-the-colonial-period-to-1947/.
141 Samayita Banerjee, "India: Heritage theft remains a challenge," *UNESCO Courier*, October 8, 2020, courier.unesco.org/en/articles/india-heritage-theft-remains-challenge.
142 "India's 'Maratha Military Landscapes' inscribed on UNESCO World Heritage List," *The Hindu*, July 12, 2025, www.thehindu.com/news/national/indias-maratha-military-landscapes-inscribed-on-unesco-world-heritage-list/article69802028.ece.
143 Amanda DiSilvestro, "What Does It Mean to Be a UNESCO World Heritage Site?" Discover Corps, September 7, 2018, discovercorps.com/mean-unesco-world-heritage-site/.

the protection of structures older than 50 years.[144] The intention of this initiative was to celebrate the preservation of heritage sites. However, due to infrastructural issues like a lack of security for the sites and local coordination, the initiative was not as effective as expected. In the face of these challenges, states in these blocs often pilot heritage preservation projects in partnership with UNESCO and other international actors/organizations.

While states in this bloc demonstrate genuine legislative intent, their frameworks are still emergent due to challenges in enforcement. Nevertheless, the efforts put in by these states are constructive, as countries in this bloc are increasingly participating in UNESCO processes. These systems are ever-changing as international cooperation and infrastructure grow. This bloc would likely advocate for increased international funding, technology transfer, and training programs to help developing states safeguard heritage in conflict zones. They may call for the creation of an international fund or emergency response unit under UNESCO to aid cultural reconstruction. These states often support joint public-private partnerships, youth education programs, and regional heritage networks to bridge capability gaps. They will likely favor non-punitive, cooperative approaches rather than strict enforcement measures, emphasizing that heritage protection must not come at the expense of national development priorities.

States Reluctant to Establish National Frameworks or Engage in International Cultural Preservation Efforts

This bloc consists of countries with limited or alternative engagement with international heritage frameworks. This bloc comprises two cohorts. One set of countries are capacity-constrained states that may lack institutions and resources to formalize heritage policy, and the other are states with strong institutions that deliberately refrain from certain UNESCO instruments due to sovereignty, federalism, or Indigenous-governance considerations.

As seen in UNESCO's Database of National Cultural Heritage Laws, there are a number of states that have little to no formal structure in place for preservation. In parts of Sub-Saharan Africa and the Pacific, heritage governance often relies on customary, community-based practices rather than centralized statutes.[145] Some states also have no World Heritage properties. Some states might not have nominated sites, are early in the nomination process, or other priorities and capacity constraints have taken precedence.

While Tuvalu, Nauru, and South Sudan exemplify capacity challenges, Canada, Australia, New Zealand, and Israel illustrate policy-choice non-ratification of certain instruments, most notably the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage (as of 2025).[146] With climate pressures rising, especially for small island states, many governments emphasize national and local measures and customary practices over expanding formal treaty commitments.[147]

This bloc tends to prioritize national sovereignty and cultural autonomy, arguing that preservation should reflect local customs, Indigenous traditions, and community control rather than external mandates. They often oppose expanding binding UNESCO mechanisms, favor voluntary participation, regional cooperation, and flexible guidelines, and, for small islands or developing states, push to recognize climate change as a cultural threat and to channel direct adaptation funding rather than conditioning support on convention ratification.

144 "[REPUBLIC ACT NO. 6980, April 18, 1991]," Republic of the Philippines, accessed August 28, 2025, elibrary.judiciary.gov.ph/thebookshelf/showdocs/2/2526.
145 "UNESCO Database of National Cultural Heritage Laws," UNESCO, accessed August 28, 2025, www.unesco.org/en/cultnatlaws.
146 Carsten Stahn, *Confronting Colonial Objects: Histories, Legalities, and Access to Culture*, chap. 7 (Oxford: Oxford University Press, 2023), academic.oup.com/book/51727/chapter/419840752.
147 *Capacity Development for Climate Change in Small Island Developing States* (Paris: OECD, 2023), www.oecd.org/content/dam/oecd/en/publications/reports/2023/11/capacity-development-for-climate-change-in-small-island-developing-states_58d9c5c7/888c870a-en.pdf.

Committee Mission

The United Nations Educational, Scientific, and Cultural Organization serves many purposes. The UNESCO constitution states, "A peace based exclusively upon the political and economic arrangements of governments would not…secure lasting and sincere support of the people of the world," so "peace must…be founded upon the intellectual and moral solidarity of mankind."[148] Under this idea, the protection of cultural heritage in conflict zones is not merely a peripheral task. It is an expression of the core values of UNESCO's mission. Cultural heritage, in its many forms, embodies the ideas of identity, memory, and generational continuity. When pieces of heritage are destroyed, it creates tears in the very social fabric of society that UNESCO has worked hard to protect. Further, in many conflicts, the destruction of heritage is intentional and aims to erase identity and weaken communities. Safeguarding heritage is therefore not only a moral responsibility but also a crucial act of peacebuilding and reconciliation.

Delegates in this committee will discuss the safeguarding of heritage on both a global and state level. UNESCO has worked on numerous initiatives on this topic, dating back to 1954 with the treaty created at the Hague Convention. Since then, UNESCO has expanded its efforts, including the adoption of emergency response frameworks, programs for the protection of heritage, and the revitalization of cultural practices in post-conflict recovery. The most recent legislation is from 2003 and focuses on the protection of intangible heritage. These initiatives demonstrate that the protection of cultural heritage is an ongoing discussion with frequent developments and unique situations.[149]

When approaching this topic, delegates must be cognizant of the international community's role in protecting cultural heritage before, during, and after conflict. Measures for documentation and digitalization must be considered. Perhaps most importantly, the voices of local communities need to be heard, as they are the ones that possess lived experiences in relation to the heritage to be protected. Empowering these communities falls in line with the UNESCO mandate, which celebrates progress through collaboration and the building of a more inclusive future.

148 "Constitution," UNESCO, last updated July 24, 2024, www.unesco.org/en/legal-affairs/constitution?hub=171411.
149 *Protection of Cultural Property Military Manual* (Sanremo: UNESCO, 2022), iihl.org/wp-content/uploads/2022/12/CPP-Manual-English.pdf.

Research and Preparation Questions

The following research and preparation questions are meant to help you begin your research on your country's policy. These questions should be carefully considered, as they embody some of the main critical thought and learning objectives surrounding your topic.

Topic A

1. What are the minimum global safeguards your country is willing to accept? Will they be accepted even if it means slowing innovation?
2. Who should be held liable for harm from AI recommendations: the clinician, the hospital, the vendor, no one, or another party altogether?
3. What is the level of healthcare your country has access to, and how accessible is it to all populations?
4. How has your country tried incorporating newer technology and innovation into healthcare to improve the quality of life?
5. What role should governments play in ensuring the right to health, and how might this differ across various political systems?
6. To what extent should UNESCO propose international ethical norms for genetic engineering, given that domestic laws and definitions of ethics vary widely?
7. What lessons from the COVID-19 pandemic should UNESCO standardize to guide emergency use authorizations of future health technologies?

Topic B

1. How can UNESCO and partnered nations strengthen international cooperation in preserving cultural aspects, sites, and practices?
2. How can emerging technologies transform the future of cultural heritage preservation?
3. How can UNESCO account for diversity in cultural practices when creating policies and frameworks for the preservation of heritage?
4. What steps should UNESCO take to enhance enforcement mechanisms to protect cultural heritage and uphold accountability standards internationally?
5. What ethical challenges arise when external organizations control the digitalization and archiving of local cultural heritage? How can UNESCO best manage this?
6. Why is involving local communities significant, and what essential role does the youth play in sustaining cultural traditions?

Important Documents

Topic A

"Ethics and governance of artificial intelligence for health," World Health Organization, June 28, 2021, www.who.int/publications/i/item/9789240029200.

Global strategy on digital health 2020-2025 (Geneva: World Health Organisation, 2021), www.who.int/docs/default-source/documents/gs4dhdaa2a9f352b0445bafbc79ca799dce4d.pdf.

"International Declaration on Human Genetic Data," UNESCO, accessed August 28, 2025, www.unesco.org/en/ethics-science-technology/human-genetic-data.

International Ethical Guidelines for Health-Related Research Involving Humans (Geneva: Council for International Organizations of Medical Sciences, 2016), cioms.ch/wp-content/uploads/2017/01/WEB-CIOMS-EthicalGuidelines.pdf.

"Universal Declaration on Bioethics and Human Rights," UNESCO, accessed August 28, 2025, www.unesco.org/en/ethics-science-technology/bioethics-and-human-rights.

Topic B

"Cultural heritage and armed conflicts," UNESCO, accessed August 28, 2025, www.unesco.org/en/heritage-armed-conflicts.

Herb Stovel, Risk Preparedness: A Management Manual for World Cultural Heritage (Rome: ICCROM, 1998), www.iccrom.org/sites/default/files/ICCROM_17_RiskPreparedness_en.pdf.

Huimin Cao, "Exploring the promotion of musical intangible cultural heritage under TikTok short videos," Scientific Reports 15 (2024), doi.org/10.1038/s41598-025-09723-3.

"UNESCO trains digital content creators to become trusted voices online," UNESCO, November 8, 2024, www.unesco.org/en/articles/unesco-trains-digital-content-creators-become-trusted-voices-online.

UNESCO, "Genocide against the Tutsi: UNESCO and Rwanda to step up the role of education in the memorial sites," press release, April 7, 2025, www.unesco.org/en/articles/genocide-against-tutsi-unesco-and-rwanda-step-role-education-memorial-sites.

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