BACKGROUND GUIDE

WHO

WORLD HEALTH ORGANISATION

SMIS MUN ‘25

IMAGINE · INSPIRE · INNOVATE

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LETTER FROM EXECUTIVE BOARD

Greetings Delegates,

We are delighted to serve as the executive board for this edition of SMIS MUN in 2025. This is a special simulation of the World Health Organisation (WHO) on an extremely relevant scientific discipline and its application in the real world — Human Genomics. The WHO, through its decision-making arm the World Health Assembly (WHA), coordinates the world's response to health emergencies, promotes well-being, prevents disease and expands access to health care by connecting nations, people and partners to scientific evidence [1]. This simulation aims to forge a policy making discussion with a strong regard for Science and financial systems.

Genetics is the study of heredity. A genetic disorder is a disease caused by harmful genetic variations (Down Syndrome, Duchenne Muscular Dystrophy) or is contributed to by genetically determined characteristics like hormone production, biological homeostasis etc (Diabetes, Cancer, Heart Disease). On a global level and through a policy-making lens, Genomics is the next generation study of leveraging information about the human genome as a whole to create healthcare solutions and treatment strategies to combat diseases.

THE WORLD HEALTH ORGANISATION (WHO)

A. What is the World Health Organisation?

The World Health Organization (WHO) is a specialized agency of the United Nations responsible for international public health. It is Governed by the World Health Assembly, which consists of representatives from all 194 Member States. It works to promote health, keep the world safe, and serve the vulnerable. It develops international guidelines, provides technical assistance to countries, monitors disease outbreaks, and leads efforts to control major health challenges such as infectious diseases and environmental health risks. Through its work, WHO sets global standards for healthcare practices, helps coordinate emergency responses to crises like pandemics, and supports countries in building stronger health systems to improve the well-being of people everywhere [2].

B. WHO's Mandate

In simple terms, WHO's mandate is to work with countries around the world to help people live healthier lives. The official mandate of WHO is outlined in its constitution.

"The objective of the World Health Organization shall be the attainment by all peoples of the highest possible level of health." [3] In order to achieve its objective, the functions of the Organization shall be: (The following mandate has been simplified for better comprehension)

- “Acting as the directing and coordinating authority on international health work and maintaining collaboration with the United Nations and other organizations.”
- “Assisting governments, upon request, in strengthening health services and appropriate technical assistance and, in emergencies, necessary aid upon the request or acceptance of governments.”
- “Providing, upon the request of the United Nations, health services and facilities to special groups, such as the peoples of trust territories and maintaining such administrative and technical services as required”
- “Advancing work to eradicate epidemic, endemic, and other diseases and promoting, in cooperation with other specialized agencies where necessary, the improvement of nutrition, housing, sanitation, recreation, economic or working conditions, and other aspects of environmental hygiene”
- Proposing conventions, agreements, and regulations, and making recommendations with respect to international health matters”

- Promoting maternal and child health and welfare, and fostering activities in the field of mental health, especially those affecting the harmony of human relations”
- “Developing, establishing, and promoting international standards with respect to food [4]. and further developing international standards for biological, pharmaceutical, and similar products and establishing international nomenclatures of diseases, causes of death, and of public health practices.”

C. How does the WHO function?

The layered intricacies of the UN system and its councils comes from elaborately defined bodies that work together harmoniously to work together for various issues. Particularly, the way the WHO functions is of significant importance to this debate since the way your Resolutions will be formed will be highly dependent on this. We shall brief you on this matter subtly below however we recommend that you do visit other resources to understand it well.

There are essentially two governing bodies. - The World Health Assembly (The WHA) and the Executive Board.

a. THE WORLD HEALTH ASSEMBLY

The World Health Assembly is the top decision-making forum, attended by all 194 Member States, meeting annually to set policies, approve the budget, and appoint the Director-General [5]. Led by the Director-General (e.g., Dr. Tedros), the Secretariat (≈7,000 staff) coordinates WHO's global activities from HQ in Geneva, regional and country offices [6].

b. THE EXECUTIVE BOARD

The EB is made up of 34 technical experts elected for three-year terms. They prepare WHA agendas and guide policy implementation [7].

- Think of the WHA as the legislative body (like a parliament), and the Executive Board as the executive arm that ensures its decisions are acted upon and well-managed.
- The WHA directs, and the Executive Board facilitates and follows through

c. GLOBAL STRUCTURE

WHO has six region-specific offices (e.g., AFRO, EURO) that adapt global strategies to regional health needs. Along with that, WHO also has country offices that work directly with governments to support outbreak response, vaccination campaigns, health system strengthening, etc [8].

Some other important things to research upon are WHO's limits of Authority. For example, WHO cannot enforce policies, the policies formed by WHO are solely dependent on member state compliance. No country is obligated to follow the policies formed.

A commonly misguided error assumed about WHO is that it is a body that directly delivers medical services like hospitals or field clinics. However, that is untrue and it is simply a policy forming body.

IMPORTANT NOTE: The committee will follow UNA-USA procedure with EB mandated changes wherever necessary for the benefit of the committee's learning experience. This point will be further elaborated on in committee as necessary.

D. Landmark Projects of WHO

The widely known project conducted and successfully accomplished by WHO was a global vaccination campaign that **eradicated smallpox**, the first & only disease eliminated worldwide—a landmark in public health [9].

Following that, WHO co-founded this 1988 initiative, reducing polio cases by over 99%. The world now stands at the brink of polio eradication.

WHO has also formed an expanded programme on immunization (EPI) which aims to make childhood vaccines universally available. Since its launch, **EPI has prevented ~154 million deaths**, particularly from measles and polio.

Most recently, WHO ensured access to COVID- 19 Tools (ACT) Accelerator. It ensured global collaboration to accelerate diagnostics, treatment, and equitable vaccine distribution during the pandemic.

Finally, WHO's Emergency Response Program supported sequencing and outbreak response for diseases like Ebola, Lassa fever, and Marburg across Africa [10].

E. What WHO is currently working towards

Some very important initiatives undertaken by WHO as pose as a catalyst for change are:

1. Fourteenth General Programme of Work (GPW 14: 2025-2028) [11]

This is WHO's most important task in the current year. It is a strategic roadmap that aims to

a. Promote, provide, and protect health for all people, everywhere,

b. Achieve universal health coverage,

c. Address climate change, aging, migration, & future health challenges.

2. Global Pandemic Preparedness Agreement

In May 2025, Member States adopted a legally binding pandemic accord to ensure better coordination and share tools (vaccines, medicines, diagnostics) during future crises and combat crises like COVID-19 effectively. [12]

3. " 3 by 35"

WHO is advocating for a 50% tax increase on tobacco, alcohol, and sugary drinks by 2035, projecting $1 trillion in revenue to fund health systems and NCD prevention. [13]

F. International Health Regulations (IHR) [14]

The International Health Regulations (2005) (IHR) provide an overarching legal framework that defines countries' rights and obligations in handling public health events and emergencies that have the potential to cross borders. The IHR are an instrument of international law that is legally-binding on 196 countries, including the 194 WHO Member States. They create rights and obligations for countries, including the requirement to report public health events.

The IHR introduce important safeguards to protect the rights of travellers and other persons in relation to the treatment of personal data, informed consent and non-discrimination in the application of health measures under the Regulations.

The IHR require that all countries have the ability to do the following:

- *Detect:* Make sure surveillance systems can detect acute public health events in timely manner
- *Assess and report:* Use the decision instrument in Annex 2 of the IHR to assess public health event and report to WHO through their National IHR Focal Point those that may constitute a public health emergency of international concern
- *Respond:* Respond to public health risks and emergencies

ABOUT THE AGENDA

A. Genetics and Genetically-determined Disorders

Genetics is the study of heredity, the process of a parent passing certain genes to their children. Some characteristics influenced by genes and heredity are a person's appearance -- height, hair color, skin color, and eye color, likelihood of getting certain diseases, and mental abilities. [15]

Humans possess 2 copies of each gene or characteristic — one from each parent where the final visible trait or phenotype is randomly chosen. Genes exist in many variations that are formed randomly.

A genetic disorder is a disease caused in whole or in part by a change in the DNA sequence away from the normal sequence. Genetic disorders can be caused by a mutation in one gene (monogenic disorder), by mutations in multiple genes (multifactorial inheritance disorder), by a combination of gene mutations and environmental factors, or by damage to chromosomes (changes in the number or structure of entire chromosomes, the structures that carry genes).

As we unlock the secrets of the human genome (the complete set of human genes), we are learning that nearly all diseases have a genetic component.

Some diseases are caused by mutations that are inherited from the parents and are present in an individual at birth, like sickle cell disease. Other diseases are caused by acquired mutations in a gene or group of genes that occur during a person's life. Such mutations are not inherited from a parent, but occur either randomly or due to some environmental exposure (such as cigarette smoke). These include many cancers, as well as some forms of neurofibromatosis. [16]

An abnormal trait (variant) that is passed down through families (inherited) may:

- Have no effect on your health or well-being. For example, the trait might just cause a white patch of hair or an earlobe that is longer than normal.
- Have only a minor effect, such as color blindness.
- Have a major effect on your quality or length of life.

If interested or necessary, you may study more about Genetics on websites like Genome, Byjus, CDC or in your school curriculum.

B. Human Genomics and its Advent

The most scientifically relevant method of studying genes on a macroscopic level is DNA Sequencing. Sequencing simply means determining the exact order of the bases in a strand of DNA. Researchers can use DNA sequencing to search for genetic variations and/or mutations that may play a role in the development or progression of a disease. The disease-causing change may be as small as the substitution, deletion, or addition of a single nucleotide base pair or as large as a deletion of thousands of bases. [17]

Modern Human Genomics owes its scientific beginning to the Human Genome Project. The Human Genome Project, which was led at the National Institutes of Health (NIH) by the National Human Genome Research Institute, produced a very high-quality version of the human genome sequence that is freely available in public databases. One use of the project is to look for the genetic variations that increase risk of specific diseases, such as Cancer, or to look for the type of genetic mutations frequently seen in cancerous cells.

Virtually every human ailment has some basis in our genes. Until recently, doctors were able to take the study of genes, or genetics, into consideration only in cases of birth defects and a limited set of other diseases.

These were conditions, such as sickle cell anemia, which have very simple, predictable inheritance patterns because each is caused by a change in a single gene.

With the vast trove of data about human DNA generated by the Human Genome Project and other genomic research, scientists and clinicians have more powerful tools to study the role that multiple genetic factors acting together and with the environment play in much more complex diseases. These diseases, such as cancer, diabetes, and cardiovascular disease constitute the majority of health problems in the world. Genome-based research is already enabling medical researchers to develop improved diagnostics, more effective therapeutic strategies, evidence-based approaches for demonstrating clinical efficacy, and better decision-making tools for patients and providers. Ultimately, it appears inevitable that treatments will be tailored to a patient's particular genomic makeup. Thus, the role of genetics in health care is starting to change profoundly and the first examples of the era of genomic medicine are upon us.

It is important to realize, however, that it often takes considerable time, effort, and funding to move discoveries from the scientific laboratory into the medical clinic. Most new drugs based on genome-based research are estimated to be at least 10 to 15 years away, though recent genome-driven efforts in lipid-lowering therapy have considerably shortened that interval. [18]

C. Current Trends in Genomics

Current genomic technologies include:

- **Next-Generation Sequencing (NGS):** NGS technologies, such as Illumina and Oxford Nanopore, have revolutionized the field of genomics by enabling the rapid and cost-effective generation of large amounts of genomic data.
- **CRISPR Gene Editing: CRISPR-Cas9** and other gene editing technologies have enabled precise modifications to the genome, opening up new possibilities for gene therapy and synthetic biology.

Recent advancements in genomics research include:

- **Identification of Genetic Variants:** Large-scale genomic studies have identified numerous genetic variants associated with disease, enabling the development of new diagnostic and therapeutic strategies.
- **Development of Gene Therapies:** Gene therapies, such as CRISPR-Cas9, have shown promise in treating genetic diseases.

Emerging trends in genomics include:

- **Personalized medicine:** The use of genomics in personalized medicine is becoming increasingly popular. By analyzing a patient's genome, doctors can identify genetic variations that affect a patient's response to medication,

which can inform treatment decisions and reduce the risk of adverse reactions.[19]

- **Use of Artificial Intelligence and Machine Learning:** The use of AI and ML is becoming increasingly important in genomics, enabling the analysis of large datasets and the identification of complex patterns.
- **Precision Medicine:** Genomics is playing an increasingly important role in precision medicine, enabling the development of personalized diagnostic and therapeutic strategies. [20]

What diseases are being tackled most popularly?

- **Cancer(NGS):** Cardiovascular diseases, Neurodegenerative studies (Genome-wide association studies (GWAS)), infectious diseases (Whole genome sequencing),
- **Gene Therapies:** Spinal muscular atrophy (SMA), Duchenne muscular dystrophy (DMD), Cystic Fibrosis, Hemophilia, Sickle Cell Disease, Beta Thalassemia, Acute Lymphoblastic Leukemia (ALL), Diffuse Large B-cell Lymphoma, Melanoma, HIV/AIDS, Huntington's disease.

D. *Applications of Genomics in Healthcare*

- **Identification and diagnosis of genetic factors contributing to common disease:** Genomic technologies are increasingly being used to understand the contribution of both rare and common genetic factors to the development of common diseases, such as high blood pressure, diabetes

and cancer.

- **Pharmacogenetics and targeted therapy:** Genetic information may be used to predict whether a person will respond to a particular drug, how well they will respond to that drug and whether they are likely to get any side effects from the use of a specific drug.

- **Prenatal diagnosis and testing:** Genetic diseases are often devastating and may cause significant disability and even death in childhood. Prenatal diagnosis of genetic diseases allows parents to make decisions about whether to continue with the pregnancy or to allow early diagnosis and possible treatment in utero or at birth.

- **Infectious diseases:** Sequencing the genomes of microorganisms which cause human infection can identify the exact organism causing symptoms, help to trace the cause of infectious outbreaks, and give information as to which antibiotics are most likely to be effective in treatment.

- **Personalised medicine:** As the exact DNA sequence of the genome of each human is unique to them, we will all have unique disease susceptibilities and treatment responses. Personalised medicine describes the use of our genetic information to tailor health care intervention to our own individual needs.

- **Gene therapy:** Gene therapy involves the administration of DNA or RNA, in order to correct a genetic abnormality, or modify the expression of genes.

- **Genome editing:** Genome editing uses molecular techniques to modify the genome – genome editing can add in, cut out, or replace sections of the DNA sequence. [21]

4. CONCERNS REGARDING GENOMICS: A GLOBAL HEALTH PERSPECTIVE

The integration of genomics into public health raises several ethical considerations. Some of the key issues include privacy and data protection, informed consent and autonomy, and the potential for genetic discrimination and stigma. These concerns are particularly relevant in the context of public health, where the use of genomic data can have far-reaching implications for individuals and communities. The benefits of genomics are not being shared equally: while high-income countries build sophisticated genomics programs, many low and middle-income countries (LMICs) remain locked out of this revolution due to cost, lack of infrastructure, and limited political support.

Some major concerns are:

1. Sustainable Financing Systems

- What can be assumed to be the true cost of health?
- High Cost v/s Equity: Can Personalized Medicine Coexist with Health Equity?
- At what price does genomic medicine become a right, not a luxury?

In a world increasingly driven by technological progress, the questions phrased above are no longer rhetorical - they are strategic, urgent and in fact globally consequential. When it comes to human genomics, the answer is complex and layered: health may be priceless in principle, but in practice, it is shaped by systems that often exclude those who need care the most.
High-income countries (HICs) contribute the most—funding not only their own genomic infrastructure but also subsidizing efforts in low- and middle-income countries (LMICs). Middle-income countries contribute at a reduced rate, with optional co-financing mechanisms.Low-income countries may receive full subsidies, supported by global donors and pooled funds.Institutions like the WHO, Gavi, or a proposed Global Genomics Equity Fund could administer tiered financing models. Funding could be linked to measurable outcomes (e.g., number of genomes sequenced, diversity of samples, outbreaks tracked). [22]

Building genomics infrastructure—sequencers, data centers, trained personnel—is expensive. LMICs struggle to sustain such programs, risking a "genomic divide" between high-income countries (HICs) and low income countries (LMICs). WHO's Science Council produced its inaugural report in 2022, outlining a roadmap to accelerate access to genomic technologies and their applications, particularly in LMICs. [23]

So what really are the inner workings of the finances that fund our "health system", keeping in mind the essence of human genomics?

2. Infrastructure gaps and Donor Dependency

Human genomics requires significant capital investment: high-throughput sequencers, cloud-based data systems, trained personnel, biobanks, bioinformatics software, and ethical oversight mechanisms. These are often beyond the reach of low- and middle-income countries (LMICs), which already face constraints in basic healthcare delivery. Genome sequencing cost has dropped below $200 per person—but setting up national genomics programs still runs into tens or hundreds of millions of dollars. Many LMICs lack genomic data centers, meaning they must outsource analysis—creating dependency and raising concerns about data sovereignty.

LMICs' Health Ministries have constrained budgets, therefore investing in genomics competes with urgent needs like immunization, sanitation, and maternal care. [24] Some critical questions that we hope the debate answers are:

1. *Can countries justify genomics spending when basic health metrics remain unmet?*
2. *How can we build financing models that do not drain national budgets, yet still allow access to transformative technologies?*

Many countries rely on external donors (e.g., Gates Foundation, Wellcome Trust) to fund genomics research. But this financing is often short-term and skewed toward globally marketable innovations (e.g., cancer therapies, rare diseases), rather than public health priorities in the Global South, such as sickle cell anemia or TB. [25] Following this we can consider two things

1. *Do private-public partnerships follow commercial interests or community needs?*
2. *Do elite institutions benefit disproportionately?*

3. Genetic Discrimination and Governance Challenges

Genetic discrimination refers to the unequal treatment of individuals based on an aspect of their genetic code or genome, such as the risk for genetic disorder. It involves the inappropriate use of genetic information, primarily with respect to health insurance and employment, but including other areas such as life insurance, long-term care insurance, adoption services, egg and sperm banks or educational admissions programs. While the fear of genetic discrimination has existed prior to the start of the Human Genome Project, the solutions have been slow to come by and, at best, provide a patchwork of protections in the United States and around the world. Passage of national legislation would provide universal coverage against health insurance and employment discrimination on the basis of genetic information for all. [26]

Internationally, insurance companies may require genetic testing or access to the results of genetic testing and may refuse to insure or charge higher premiums to individuals with genetic mutations.

Employers may avoid hiring or promoting or may dismiss employees at risk of developing hereditary disorders in order to avoid higher disability insurance costs, reduce absenteeism and employee turnover, or protect their investments in employee training. Genetic information differs from other kinds of health information in several regards: it can predict future health outcomes; it is a unique identifier; it can reveal information about family members or members of the same racial or ethnic group; and it is passed from parent to child. Given the rapid pace of advances in genetic science, it is very likely that new findings will generate increasingly sensitive knowledge about everyone.

While national safeguards exist in countries like the United States and Canada, it is a rarity and the need of the hour for the rest of the world, especially in LMICs. Internationally, the Universal Declaration on the Human Genome and Human Rights (1997), the International Declaration on Human Genetic Data (2003) and the Universal Declaration on Bioethics and Human Rights are global instruments drawn up by the International Bioethics Committee of UNESCO that combat genetic discrimination from a legislative point-of-view.

4. Ethics: Data Privacy, Confidentiality, Informed Consent, and Misuse of Information

Modern sequencing (e.g., NGS) captures massive, sensitive datasets. Even anonymized data can often be re-linked to individuals or family members via cross-referencing with public records. Data safety depends not only on anonymization but on the entire ecosystem—storage, sharing platforms, and legal frameworks. Genomic information about one person inherently reveals information about biologically related individuals, raising special ethical dilemmas. [27]

Genomic data are highly sensitive and can be used to identify individuals, making privacy and data protection critical issues. There is a risk of unauthorized access, misuse, or exploitation of genomic data, which could have serious consequences for individuals and communities. Informed consent is a fundamental principle in medical ethics, and it is equally relevant in the context of genomic public health. Individuals must be fully informed about the use of their genomic data, the potential risks and benefits, and their rights regarding data access and control. However, obtaining informed consent can be challenging in public health contexts, where data are often collected and used at a population level. [28] Sequencing children or embryos may reveal adult-onset conditions, raising ethical questions about parental consent and the child's future autonomy.

Therefore, individuals need full understanding of:

- How their data will be stored, used, or shared (including future, unknown studies)
- Their right not to know certain results (like predispositions)

a. Clinical ambiguity: Not all genomic findings are well-understood—some are uncertain, unactionable, or later disproven. Participants must decide which categories of results they want to receive . [29]

b. Minors & future info: Sequencing children or embryos may reveal adult-onset conditions, raising ethical questions about parental consent and the child's future autonomy

While these issues are overarching aspects of concerns regarding Genomics, others like that of the Psychological, Social, and Cultural impact of Genomic Technology are crucial for discussion in committee.

QUESTIONS A RESOLUTION MUST ANSWER

- In what ways can the average person be equipped to understand the science behind genomics in order to make informed decisions as it increasingly impacts their health and life?

- To what extent can the healthcare principles of prediction and prevention be realistically applied to genetically-determined disorders, and how should this influence clinical and public health strategy?

- How can we set up sustainable financing systems to promote and maintain Genomics-related technology?

- What are the guiding principles and best practices that inform the creation, collection, and maintenance of genomic data ethically?

- How can the international community support the development and equitable spread of genomic technologies in low- and middle-income countries (LMICs)?

- How can WHO prevent ‘genomic tourism’ and the exploitation of LMICs while still promoting cross-border genomic research and collaboration?

- How can WHO ensure that genomic advances do not worsen existing global health disparities and instead reduce health inequality between nations?

- How will member states, organisations, individuals, and the international community develop and enforce regulatory standards to prevent misuse of gene technologies, such as unethical experimentation, genetic discrimination, or eugenics?

- What are the ethical norms and best practices that should govern clinical trials involving genomic technology, particularly in vulnerable populations?

- What is the optimal balance between public sector institutions (governments and the UN system) and private entities (corporations and biotech firms) in advancing and regulating genomic technologies?

IMPORTANT RESOURCES AND INSTRUCTIONS

A. Important Documents and Legislation [30]

Some legislation one should familiarize themselves with before attending the debate are given below:

1. Universal Declaration on the Human Genome and Human Rights (November 1997)
2. The UNESCO International Declaration on Human Genetic Data (2003)
3. GDPR – EU General Data Protection Regulation (2018)
4. Additional Protocol to the Convention on Human Rights and Biomedicine concerning Genetic Testing for Health Purposes (November 2008)

These are general. Some country specific ones include:

1. OECD Guidelines & Council of Europe Declarations
2. Genetic Non-Discrimination Act (2017) - by the Canadian legislation
3. France's Bioethics law on genetic testing
4. The USA's Biosecure Act (H.R.8333, introduced 2024)
5. The USA's Genetic Information Nondiscrimination Act (GINA, 2008)

B. Instructions and Resources

1. *What to Research*

- Firstly, identify and educate yourself on the agenda.
- Secondly, educate yourself about your country. This would mean their stance with regards to issues pertaining to the agenda, the blocs they are part of, the measures or actions they have taken. Make sure your research
- Thirdly, keep yourself up to date with the international response to the issues under the agenda, whether it be the actions by the international community, or the UN.
- Last but not least, make sure your research contains inventive, well-researched, and effective solutions.

Pro tip: some footnotes in this guide may be helpful as research material!

2. Sources of Information

The committee recognizes the following sources as credible:

1) News Sources

Reports from state-operated agencies or international news agencies. Examples include Reuters (https://www.reuters.com/) and IRNA (Iran) (http://www.irna.ir/).

2) Government Reports

Examples include government websites such as the U.S. State Department (http://www.state.gov/index.htm) and the Russian Federation Ministry of Defense (http://www.eng.mil.ru/en/index.htm) Reports from ministries of foreign affairs, such as India's (http://www.mea.gov.in/) and permanent representatives to the United Nations (http://www.un.org/en/members) are also valid. Reports from multilateral organisations like NATO (http://www.nato.int/cps/en/natolive/index.htm) are credible.

3) UN Reports

All reports from UN bodies, such as UNSC (http://www.un.org/Docs/sc) and UNGA (http://www.un.org/en/ga/) , are considered credible. Reports from affiliated UN bodies like the World Bank (http://www.worldbank.org/) are also valid sources of information.

Note: Refrain from using websites like Wikipedia directly which have low validity since they are open-sourced and easily manipulated.

DOCUMENTATION

Note: Position papers are required to be submitted on day 1 of committee before we begin. Detailed instructions will be conveyed by the Secretariat and Executive Board. This is a mandatory submission.

Please note that the final documentation process will be explained to you in detail at the end of day 1 or 2 of committee.

Refer to this link to view how a WHA resolution works : https://apps.who.int/gb/ebwha/pdf_files/WHA72-REC1/A72_2019_REC1-en.pdf#page=1

All the best!

FOOTNOTE LINKS

[1] https://www.who.int/about/who-we-are

[2] https://www.who.int/about/who-we-are

[3] WHO Constitution, Chapter I, Article 1

🔗 https://www.who.int/about/governance/constitution

[4] WHO Constitution, Chapter II, Article 2

🔗 https://www.who.int/about/governance/constitution

[5] https://www.who.int/about/governance? ; https://www.weforum.org/stories/2025/05/world-health-assembly-who-healthcare-what-it-is-and-importance/

[6] https://www.idwho.org/governance/en/en.htm

[7] https://www.who.int/about/governance/executive-board

[8] https://www.who.int/about/funding/assessed-contribution

[9] https://www.who.int/our-work

[10] https://www.who.int/news-room/spotlight/global-health-achievements-2023

[11] https://www.who.int/about/general-programme-of-work/fourteenth

[12] https://www.reuters.com/business/healthcare-pharmaceuticals/landmark-global-pandemic-agreement-adopted-by-world-health-organization-members-2025-05-20/

[13] https://www.reuters.com/business/healthcare-pharmaceuticals/who-pushes-50-price-rise-through-taxes-sugar-alcohol-tobacco-2025-07-02/

[14] https://www.who.int/health-topics/international-health-regulations#tab=tab_1

[15] https://medlineplus.gov/ency/article/002048.htm

[16] https://www.genome.gov/For-Patients-and-Families/Genetic-Disorders

[17] https://www.genome.gov/about-genomics/fact-sheets/A-Brief-Guide-to Genomics#:~:text=Genomics%20is%20the%20study%20of,and%20with%20the%20person's%20environment

[18] ibid

[19] https://dispendix.com/blog/top-trends-2023-in-genomics https://www.numberanalytics.com/blog/future-of-genomics-trends-and-insights

[20] https://www.numberanalytics.com/blog/future-of-genomics-trends-and-insights

[21] https://www.futurelearn.com/info/courses/the-genomics-era/0/steps/4911

[22] Gavi's vaccine alliance model offers a blueprint for how tiered financing helped scale immunization globally.

[23] World Health Organization, Geneva, 2022 from: https://www.who.int/publications/i/item/9789240052857

[24] WHO. (2021). Human Genomics in Global Health: https://www.who.int/initiatives/human-genomics-in-global-health

[25] Ginsburg, G.S., & Phillips, K.A. (2018). Precision Medicine: From Science to Value. The Lancet Global Health; https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(18)30471-9/fulltext

[26]https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/genetic-discrimination

[27]https://www.numberanalytics.com/blog/ethics-genomic-data-sharing

[28]https://www.numberanalytics.com/blog/genomics-public-health-ethics-guide

[29]pmc.ncbi.nlm.nih.gov+4pmc.ncbi.nlm.nih.gov+4numberanalytics.com+4

[30]https://pmc.ncbi.nlm.nih.gov/articles/PMC3897849/