



# WHO GENOMICS PROGRAMME

**Dr Elena Ambrosino**

Emerging technologies, research prioritization and support

Research for Health

Science Division

WHO

**Human Genomics for Health:  
Enhancing the Impact of  
Effective Research**

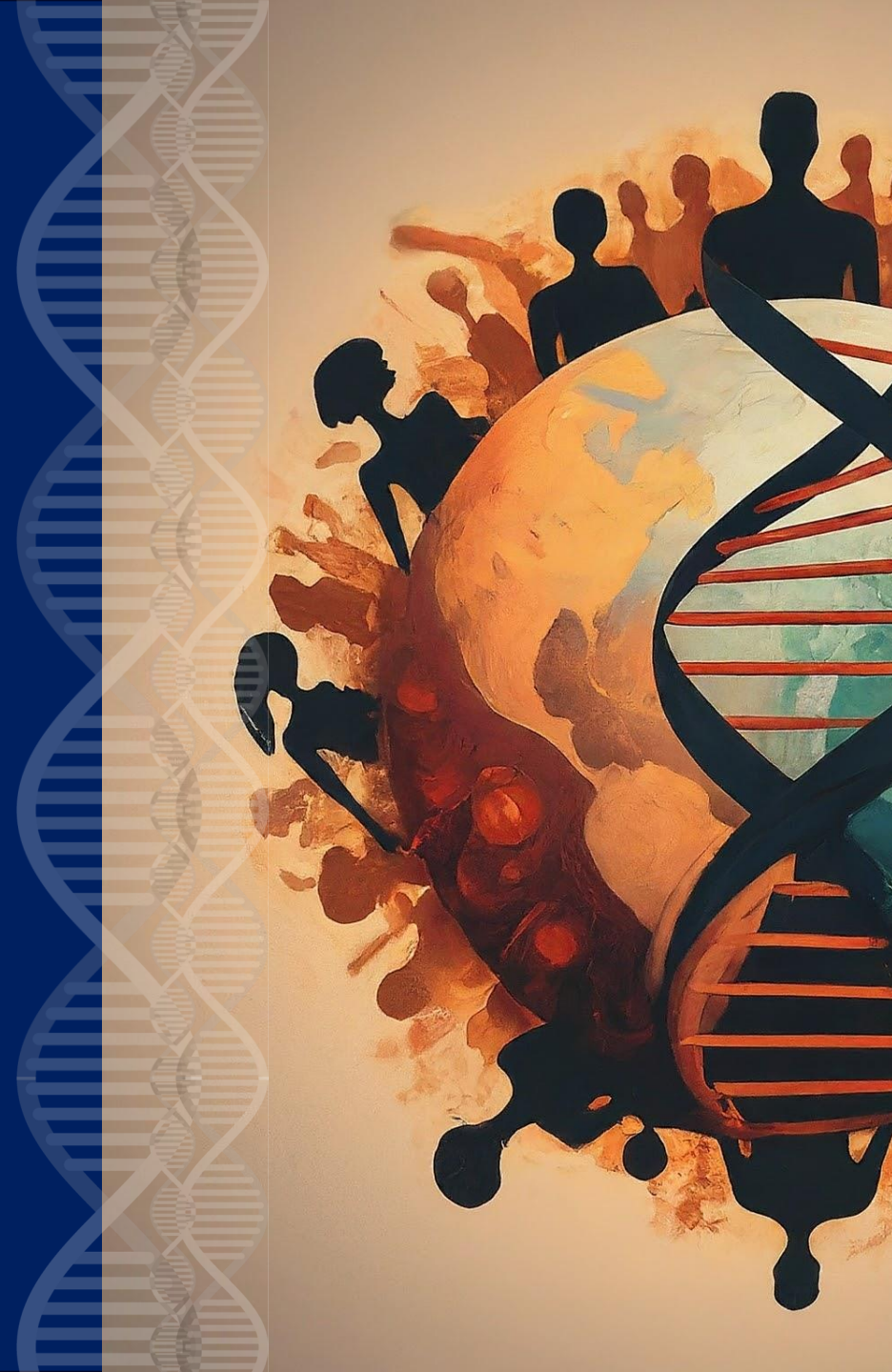
Brasilia, May 15-16



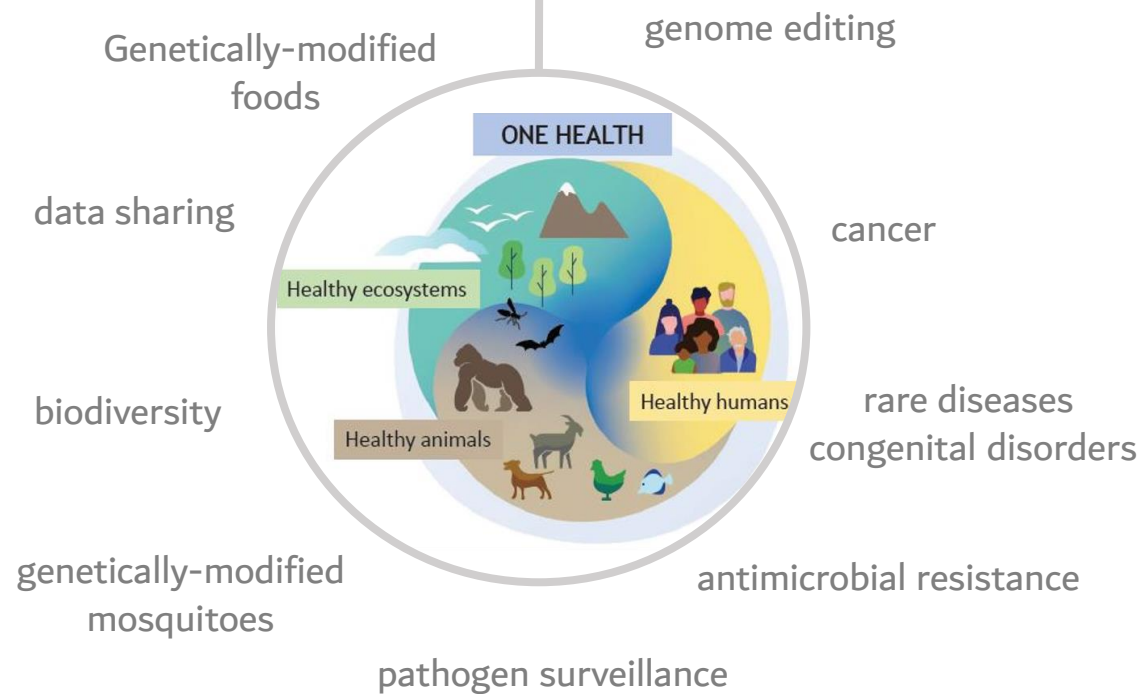
**World Health  
Organization**

# GENOMICS

- Recent technological advances enabling faster and cheaper sequencing have led to significant progress in our understanding of genetic variation, gene expression, and the role of genes in biological processes and human health and diseases.
- Genome-based knowledge and technologies and their equitable translation into affordable applications have the potential to improve human health in profound ways.



# GENOMICS at WHO



**WHO**  
**Genomics**  
**programme**  
**of work**



Support, review and provide technical guidance on activities

Recommend priority activities for consideration

Contribute to and advise on efforts in convening discussions

Bring attention to regional and sub-regional experiences

# WHO Technical Advisory Group on Genomics (TAG-G)



The image displays the WHO Technical Advisory Group on Genomics (TAG-G) members. It features a grid of 15 circular portraits, each with a name and country below it. The portraits are arranged in three rows. The top row has five members, the middle row has five members, and the bottom row has five members. The portraits of Iscia Lopes-Cendes (Brazil), Gabriela Repetto (Chile), and Sherry Taylor (Canada) are highlighted with yellow rounded rectangular borders. A large green arrow points to the right above the portraits, and the WHO logo is in the top left corner of the grid.

World Health Organization Technical Advisory Group on Genomics (TAG-G)				
 Ahmad Abou Tayoun <i>United Arab Emirates</i>	 Marc Abramowicz <i>Switzerland</i>	 Zilfalil Bin Alwi <i>Malaysia</i>	 Tiffany Boughtwood <i>Australia</i>	 Yosr Hamdi <i>Tunisia</i>
 Tim Hubbard <i>The United Kingdom</i>	 Kazuto Kato <i>Japan</i>	 Ischia Lopes-Cendes <i>Brazil</i>	 Partha Pratim Majumder <i>India</i>	 Deborah Mascalconi <i>Italy/Sweden</i>
 Rokhaya Ndiaye <i>Senegal</i>	 Michèle Ramsay <i>South Africa</i>	 Gabriela Repetto <i>Chile</i>	 Vorasuk Shotelersuk <i>Thailand</i>	 Sherry Taylor <i>Canada</i>

# WHO Technical Advisory Group on Genomics (TAG-G)



# CHALLENGES

**Poor awareness** of human genomics' benefits and value

**Lack of collaboration** between human genomic stakeholders

**Limited financial and technological and human resources**

**Inconsistent equity, ethics and governance frameworks**

**Missing guidance** to implement human genomics in research and clinical practice



# WHO GENOMICS PROGRAMME



**PROMOTION**

**IMPLEMENTATION**

**COLLABORATION**

**ELSI**



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# PROMOTION



## **COMMUNICATE**

benefits and potential of genomics to  
different audiences





# PROMOTION



**ADVOCATE** for investing in genomics



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# PROMOTION



## Key financing challenges

- Insufficient implementation
- Investments are not prioritized
- Cost effectiveness is not well understood



## Intended impact

- Articulate the qualitative and quantitative benefits of investing in human genomics to build the narrative



## Target audience

- Global audience, while using country examples
- Main audience are country decisionmakers and international funders



## Key narrative to be developed

- Investing in human genomics will cost xx over xx years
- This will deliver xxx value for specific applications



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Economics of Genomics and  
Precision Medicine Unit



# IMPLEMENTATION & COLLABORATION



**SUPPORT** workforce education and training in genomics

# IMPLEMENTATION & COLLABORATION



*International Genomics Education and Training Summit 2023*

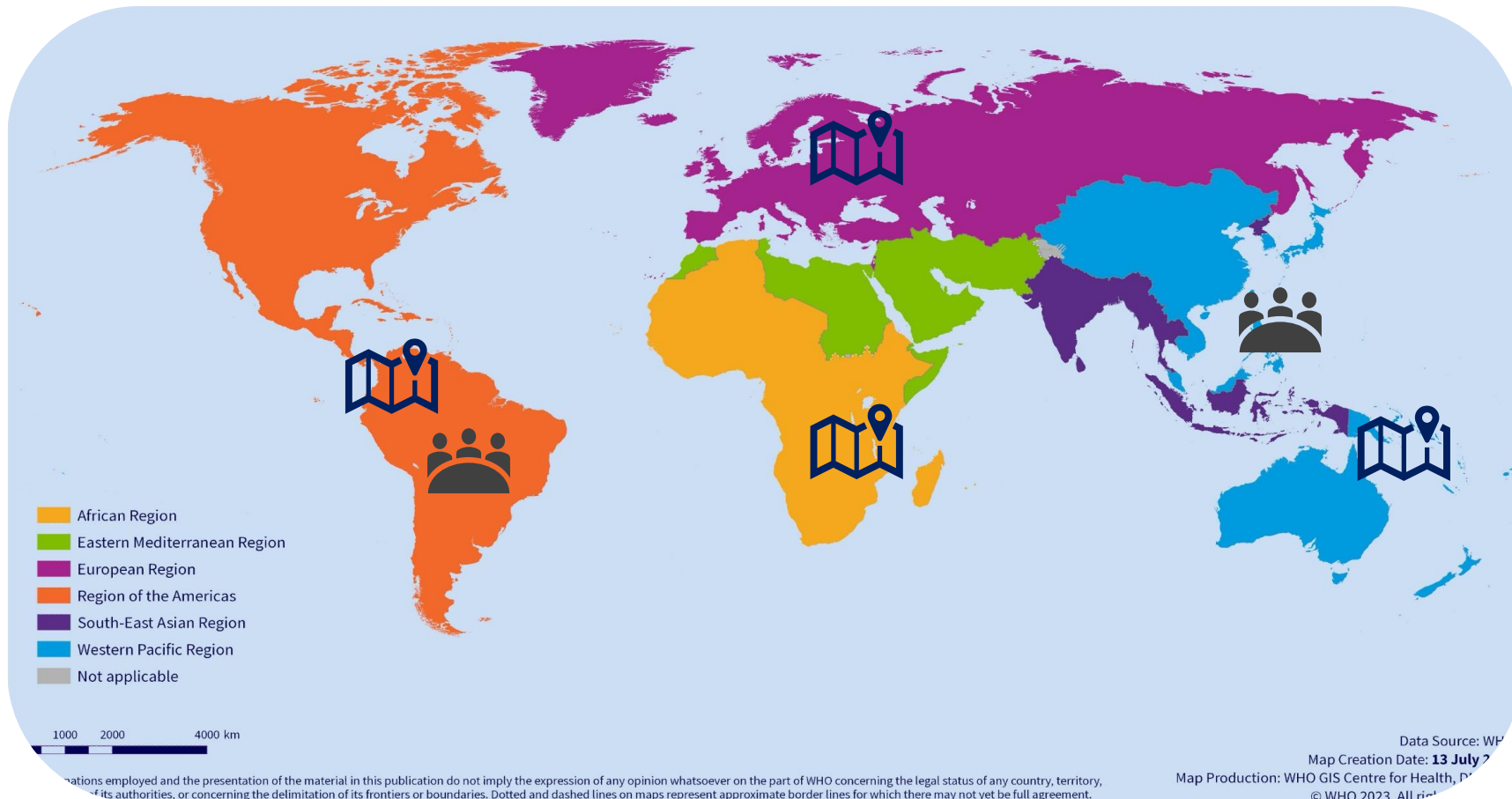
# IMPLEMENTATION & COLLABORATION



**MAP** gaps, opportunities and priorities

**GUIDE** genomic implementation based on good practices and local priorities

# IMPLEMENTATION & COLLABORATION



# IMPLEMENTATION & COLLABORATION



## ENGAGE

stakeholders across sectors and regions



## PROMOTE

a community of practice in genomics





# ETHICAL LEGAL AND SOCIAL ISSUES



## GUIDE

human genome  
data access, use  
and sharing



# ETHICAL LEGAL AND SOCIAL ISSUES



## GUIDE

equitable genomics research and practice



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# WHO GENOMICS PROGRAMME

## STRATEGIC ACTIONS

**COMMUNICATE**  
benefits and potential  
of genomics to  
different audiences

**ADVOCATE**  
for investing in  
genomics



**MAP**  
gaps, opportunities and  
priorities

**GUIDE**  
genomic implementation  
based on good practices  
and local priorities



**ENGAGE**  
stakeholders across  
sectors and regions

**PROMOTE**  
a community of  
practice in genomics



**SUPPORT**  
workforce  
education  
and training  
in genomics



**GUIDE**  
human genome data  
access, use and  
sharing  
and  
equitable genomics  
research and practice



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**Thank you**

