

Precision medicine: a path towards targeted, personalized and equitable care

The Seventy-ninth World Health Assembly,

Having considered the consolidated report by the Director-General;¹

Acknowledging the rapid evolution of biomedical and digital health sciences, including genomics, proteomics, pharmacogenomics, bioinformatics, real-world data analytics, molecular diagnostics, and advanced therapies such as cell and gene therapies, and recognizing the cross-cutting and enabling role of artificial intelligence in supporting these domains, which collectively underpin precision medicine and have the potential to transform prevention, diagnosis and treatment across the life course;

Recognizing that the term “precision medicine” refers to the use of clinical, molecular, genomic, and other health-related data to inform prevention, diagnosis and treatment decisions, taking into account individual variability in clinical characteristics, molecular and genomic profiles with appropriate safeguards, including the use of health technology assessment, to promote ethical, equitable and cost-effective implementation and improved health outcomes;

Recognizing also that precision medicine represents a paradigm shift towards predictive, preventive and participatory health systems, enabling targeted, effective and efficient interventions that enhance the efficiency and sustainability of universal health coverage by ensuring that the right intervention reaches the right patient at the right time;

Recognizing further that precision medicine, through genomic sequencing, high-throughput diagnostics and molecular targeting, and through the development and delivery of advanced therapies such as cell and gene therapies, has shown measurable clinical benefit, and in several cases demonstrated cost-effectiveness, including by improving survival through targeted cancer therapies, shortening the diagnostic odyssey for rare diseases, and reducing adverse drug reactions through pharmacogenomics;

¹ Document A79/5.

Recognizing the contribution of precision medicine to the prevention and management of noncommunicable diseases, infectious diseases, maternal, child, and mental healthcare, and its potential to improve health outcomes and greater health system efficiency;^{2,3,4}

Noting that global investment in precision medicine is projected to grow substantially by 2030, reflecting its growing impact on clinical innovation, biotechnology and public health, and the need to foster such investment to yield equitable and sustainable benefits across all regions;^{5,6}

Recalling, as appropriate, the 2023 United Nations high-level meeting on universal health coverage and the 2030 Agenda for Sustainable Development, including commitments to promote equitable distribution of and increased access to quality, safe, effective, affordable and essential medicines, vaccines, diagnostics and health technologies, as enablers of affordable, quality healthcare services and their timely delivery for all throughout the life course;

Recognizing the role of precision medicine in advancing universal health coverage and the WHO Fourteenth General Programme of Work, 2025–2028, particularly in strengthening primary healthcare, ensuring equity and addressing health inequalities;

Recognizing also that many populations, particularly women, children and older adults, remain underrepresented in the data and research that underpin precision medicine, and emphasizing the need to ensure diversity and inclusivity in the research and application of precision medicine, including meaningful representation of developing countries and historically underrepresented regions, so that emerging approaches equitably benefit all populations;

Reaffirming the importance of deliberate and well-coordinated global and national efforts to ensure that advances in precision medicine contribute to reducing inequities and health disparities within and between countries, narrowing the digital divide and promoting equitable access to affordable and timely care;

Noting that current global capacities remain uneven, with developing countries facing limited laboratory infrastructure, underrepresentation in genomic and clinical datasets, shortage

² Liang S, Kennedy E, Gale N, Watson P, Ramanathan M, Shinde A, et al. Implementation of precision medicine in treating non-communicable diseases: a systematic review. *Journal of Translational Medicine*: 23, 1174 (2025). doi: 10.1186/s12967-025-07201-y.

³ Strianese O, Rizzo F, Ciccarelli M, Galasso G, D'Agostino Y, Salvati A, et al. Precision and personalized medicine: how genomic approach improves the management of cardiovascular and neurodegenerative disease. *Genes*. 2020 July;11(7):747. doi: 10.3390/genes11070747.

⁴ [Precision health: emerging innovations for children and adolescents](#). Insight Report No.3. New York: UNICEF; 2024 (accessed 31 January 2026).

⁵ [Global precision medicine market size and outlook, 2023–2030](#). Grand View Horizon Databooks (accessed 31 January 2026).

⁶ [Precision medicine market size, share and trends analysis report, 2025–2033](#). Straights Research (accessed 31 January 2026).

of skilled professionals, and inadequate governance mechanisms for ethical data use and sharing;^{7,8,9,10}

Conscious of the ethical, legal, social and economic implications of precision medicine, including patient privacy, informed consent, governance and stewardship of genetic and health data, respecting national laws, data protection and data sovereignty, algorithmic bias, and equitable access to innovation;

Recalling resolution WHA57.13 (2004) on genomics and world health, which urged Member States to strengthen capacity in genomics to improve health outcomes and to ensure that advances in this field are used ethically, equitably and for the benefit of all populations;

Recognizing also that the evolution of genomics and related biotechnologies, and the significant drop in costs in genome sequencing since the adoption of that resolution, has led to the emergence of precision medicine, offering new opportunities to translate scientific discovery into equitable, needs-based and data-driven healthcare, at both the individual and population levels;^{11,12,13}

Recalling resolution WHA78.11 (2025) on rare diseases: a global health priority for equity and inclusion, which recognizes the importance of early diagnosis, equitable access to treatment and the inclusion of persons living with rare diseases;

Recalling also WHO's global strategy on digital health 2020–2027 and related initiatives on data governance, artificial intelligence and innovation, and recognizing their relevance in supporting the safe, ethical and equitable integration of precision medicine into health systems;

Recalling also the 2022 report of the WHO Science Council on accelerating access to genomics for global health, which calls for, inter alia, equitable integration of precision technologies to reduce health disparities, and the WHO's normative and technical guidance on human genome editing, digital health ethics and data governance, which offers a foundational policy framework for the responsible implementation of precision medicine;

Emphasizing the urgent need to strengthen national and regional capacities in genomics, pharmacogenomics, digital infrastructure, bioinformatics, clinical research, regulatory sciences and data governance, especially in developing countries, while ensuring transparency, data privacy

⁷ Girisha K and Moosa S. Genomic testing in low- and middle-income countries (LMIC). *European Journal of Human Genetics*, 2024; 32:119394. doi: 10.1038/s41431-024-01622-x.

⁸ Corpas M, Pius M, Poburennaya M, Guio H, Dwek M, Nagaraj S, et al. Bridging genomics' greatest challenge: The diversity gap. *Cell Genomics*: 2025;5(1):100724. doi: 10.1016/j.xgen.2024.100724.

⁹ [Health researcher \(in full-time equivalent\) per million inhabitants, by WHO region \(first set of charts\)](#). World Health Organization, August 2025 (accessed 31 January 2026).

¹⁰ [Guidance for human genome data collection, access, use and sharing](#). Geneva: World Health Organization; 2024 (accessed 31 January 2026).

¹¹ [Measuring genome sequencing costs and its health impact](#). Geneva: World Intellectual Property Organization; 19 March 2025 (accessed 31 January 2026).

¹² Ehman M, Sharma K, Weymann D, Maroilley T, Mohajeri A, Lehman A, et al. The cost and cost trajectory of genome sequencing and bioinformatics analysis for Indigenous children with suspected rare diseases. *Genetics in Medicine*. 2025;27(11):101568. doi:10.1016/j.gim.2025.101568.

¹³ [The cost of sequencing a human genome](#). National Human Genome Research Institute; 2021 (accessed 31 January 2026).

and security, and to promote safe and secure access to that data, data health literacy and public engagement to build trust;

Emphasizing that effective and equitable implementation of precision medicine requires robust governance, skilled human resources, interoperable and secure data systems, sustainable financing and meaningful social participation, ensuring that no one is left behind;

Noting with appreciation the initiatives of Member States and regional bodies that enhance collaboration, research and equitable access to precision medicine and data-driven public health solutions,

1. URGES Member States,¹⁴ in accordance with national contexts and priorities:
 - (1) to develop, implement and strengthen national policies and strategies that promote precision medicine, aligned with universal health coverage goals and ethical standards, ensuring affordability, accessibility, equity and sustainability;
 - (2) to recognize precision medicine as an important enabler of universal health coverage, where appropriate and cost-effective, and to integrate it into health system strengthening efforts, encompassing prevention, early detection, diagnosis, treatment and monitoring, paying particular attention to primary healthcare, as well as cancer control, rare diseases, noncommunicable diseases, infectious diseases, maternal and child health, and mental health and other nationally identified priority health areas;
 - (3) to strengthen national and regional capacities by investing in laboratory and diagnostic infrastructure, genomic databases, digital health platforms and relevant technologies, including artificial intelligence and biomedical engineering, to support the implementation and integration of precision medicine with the respect of national data sovereignty;
 - (4) to promote the inclusion of all populations in research, data systems and evaluation frameworks that support precision medicine, paying particular attention to women, children and older adults, and to address underrepresentation within the data, consistent with ethical standards, including appropriate informed consent, ensuring that approaches and interventions are rigorously assessed for safety and effectiveness across all populations and equitably benefit them;
 - (5) to establish, strengthen or maintain legal, ethical and regulatory frameworks that ensure effective data governance, privacy, transparency, interoperability, security and quality assurance, and that ensure the responsible, equitable and sustainable integration of precision medicine into national health systems, as well as enhance equitable access to innovations;
 - (6) to foster capacity-building through comprehensive education and training programmes in genomics, data science, bioinformatics and clinical interpretation, targeting the health workforce, researchers and policy-makers, to ensure and to foster the safe, effective and equitable application of precision medicine;

¹⁴ And, where applicable, regional economic integration organizations.

- (7) to encourage and promote equitable access to precision medicine services and technologies by investing in sustainable financing models and implementing pooled procurement, thereby supporting affordability and inclusivity;
- (8) to foster research collaboration and innovation in precision medicine that reflect the diversity of global populations and sex-disaggregated data and that address national and regional health priorities, including neglected and rare diseases;
- (9) to strengthen existing or establish new national centres and institutions for genomics research, as needed, with a view to enhancing national capacity and accelerating the ethical application of genomic advances in relation to national health problems;
- (10) to empower individuals, families and communities through health literacy, awareness and participatory engagement, recognizing their essential role in the co-creation and implementation of precision medicine policies and programmes and fostering inclusivity, transparency and public trust, in a way that no one is left behind;
- (11) to establish or maintain evidence-based mechanisms for the assessment and prioritization of precision medicine technologies to evaluate their clinical effectiveness, cost-effectiveness, safety and quality;
- (12) to strengthen collaboration among governments, academic and research institutions, civil society, the private sector and other relevant stakeholders to promote the exchange of precision medicine technologies, knowledge-sharing, resource mobilization and capacity-building, respecting international rules and national rules in line therewith, to advance equitable, inclusive and sustainable innovation in precision medicine;
- (13) to promote harmonization of data standards and interoperability frameworks, aligned with WHO's global strategy on digital health 2020–2027 and international governance, ethics and regulatory guidelines on artificial intelligence, and drawing on existing initiatives;

2. REQUESTS the Director-General:

- (1) to review and map existing WHO guidance and recommendations relevant to precision medicine, and if necessary, consider the development of a global strategy on precision medicine in consultation with Member States and relevant stakeholders, in line with the Framework of Engagement with Non-State Actors, as applicable, and in line with the Fourteenth General Programme of Work, 2025–2028, and prioritization process, to set out guiding principles, ethical and technical standards, and a road map for equitable, sustainable and context-appropriate implementation of precision medicine within universal health coverage frameworks;
- (2) to provide technical and normative support to Member States, particularly developing countries, upon request, in developing policies, governance mechanisms, regulatory frameworks and capacity-building initiatives that enable the safe, effective and equitable application of precision medicine, drawing on existing WHO guidance, tools and expertise, including through further strengthening and coordinating existing WHO institutional capacity in genomics, data science, bioinformatics and digital health;
- (3) to develop, upon the request of Member States, and in consultation with Member States and relevant stakeholders, in line with the Framework of Engagement with Non-State

Actors, as applicable, a country maturity model consisting of a structured framework with progressive stages and measurable indicators, for the differentiated integration of precision medicine interventions, enabling Member States and institutions to assess current capacity, identify priorities, track progress and guide phased implementation, in line with national contexts and health system readiness;

(4) to facilitate regional and global platforms for knowledge exchange, best practices and innovation in precision medicine, taking into consideration data privacy and security at the aggregated level, as well as countries' contexts, including, but not limited to, the development of population-diverse national genomic reference databases, ensuring equitable representation, transparency and benefit-sharing;

(5) to facilitate, as appropriate, the establishment of new or the strengthening of existing regional networks and capacity-building hubs in genomics and related fields, paying particular attention to the health needs of developing countries, building on and supporting existing regional initiatives;

(6) to strengthen global, regional and national collaboration with relevant partners and stakeholders, academic and research institutions, and civil society, in line with the Framework of Engagement with Non-State Actors, as applicable, to mobilize resources, foster research and innovation and promote equitable access to digital tools and technologies appropriate to precision medicine, respecting international rules;

(7) to report on the implementation of this resolution to the Eightieth and Eighty-second World Health Assemblies in 2027 and 2029, respectively, on the progress achieved;

(8) to submit, pursuant to paragraph 2(1), the global strategy on precision medicine for consideration by the Executive Board at its 164th session, with a view to its submission for adoption to the Eighty-second World Health Assembly in 2029.

Seventh plenary meeting, 23 May 2026
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