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Editorial

As the new year unfolds, global health leaders contribute their scientific expertise and reaffirm their engagement with their institutions and professional medical societies. Rising inflation, reduced global health funding, and ongoing war and conflict are placing increasing strain on global health systems. Amid changing environments, emerging disease outbreaks (e.g., Nipah virus in southeast Asia, dengue and yellow fever in the Americas), and increased use of glucagon-like peptide-1 therapies to combat obesity, incorporating technological innovation – from healthcare system delivery to disease prediction models – presents both opportunities and challenges for health leaders. The urgent call to action is to strengthen local health system capacity to effectively implement local solutions, reduce misinformation and disinformation, and promote overall health and well-being. To support these collective efforts, the World Medical Association (WMA) shared nine press releases that advocate for sustaining global leadership and diplomacy at international meetings, protecting health professionals and facilities during conflicts, and supporting ethical standards for clinical trials.

Pandemic preparedness and the One Health concept remain at the forefront of the global agenda. The UN High-Level Meeting on pandemic prevention, preparedness, and response (PPPR), to be held in September 2026, offers a key platform to secure political commitment, build on the 2023 Political Declaration on PPPR, support relevant global policies (e.g., International Health Regulations, Pandemic Agreement), and foster civil society engagement. Since the Quadripartite Organizations' Memorandum of Understanding was renewed until November 2030, this legal and operational framework can guide health leaders and civil society alike in implementing the six action tracks. Also, as highlighted in the *State of the Global Climate 2025* report, significant environmental challenges – record-breaking temperatures from 2015 to 2025, increasing greenhouse gas emissions (e.g., CO_2, CH_4, N_2O) in 2025, and warming oceans – underscore the delicate balance of our interconnected ecosystems and societies. These three timely resources will certainly sustain and accelerate momentum toward strengthened pandemic prevention, preparedness, and response.

WMA members, representing 118 NMAs, embody medical excellence and leadership across nations and geographic regions. They leave influential footprints and resonant voices, driving patient-centred care and enhancing healthcare services nationally and regionally. In this issue, WMA members representing 25 countries of the Africa, Americas, Asia, Europe, and Pacific regions shared perspectives and reflections on physicians' contributions to strengthen tuberculosis prevention and control, as part of a commemoration for World Tuberculosis Day. This collective success can be exemplified through John Maxwell's words: *"Teamwork makes the dream work."* WMA members will continue to discuss and debate national and global issues affecting physicians – including infectious disease preparedness and response – at the 232nd Council Meeting in Belgrade, Serbia, from 23-25 April 2026.

In this issue, Dr. Julie Bacqué reflected on ongoing challenges facing physicians in clinical practice, and how WMA Associate Members can contribute to international medical policy and global health dialogue. Dr. John de Jong commented on existing challenges in veterinary medical education, the future of veterinary medicine, and key priorities for engagement between the WMA and the World Veterinary Association. Dr. Jorge Coronel, Dr. Tomás Cobo Castro, and Dr. Helena Chapman prepared a comprehensive summary of the proceedings of the Latin Ibero-American and Caribbean Medical Confederation (CONFEMEL) meeting held in October 2025. Dr. Mohamed Osman and colleagues provided an overview of the WMA delegation's participation at COP30 held in Belém, Brazil. Dr. Baiba Ziemele urged physicians to support patient care through global education and advocacy efforts for World Hemophilia Day (17 April). Dr. Juan Ignacio Cobián and Dr. Vanesa Etcheverry discussed personal learning plans to support contemporary medical education. Dr. Frederico Guanais illustrated how the Organisation for Economic Co-Operation and Development (OECD) evidence can help inform and shape medical practice. Dr. Muhammad Shahid Shamim stressed the importance of bioethics education to cultivate physicians' moral judgment beyond theoretical knowledge. Finally, Dr. Francesca Alt analysed the role of death-related expressions in clinical practice, while Dr. Jadranka Buturović Ponikvar provided insights on organ donation after euthanasia.

We are excited to connect at the 232nd Council Meeting in Belgrade!

***Helena Chapman**, MD, MPH, PhD*
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Invitation to the 232nd WMA Council Session in Belgrade, Serbia

Dear colleagues,

On behalf of the Serbian Medical Chamber, it is both an honor and a privilege to extend a formal invitation to the 232nd Council Session of the World Medical Association (WMA), from 23-25 April 2026, in the city of Belgrade. This gathering will not only provide an opportunity to share knowledge and explore bold ideas, but also to strengthen our collective commitment to global medical cooperation, human dignity, and the universal right to health. As members of the global medical community, we recognise that medicine knows no borders. Despite cultural, linguistic, or geographical differences, physicians share a unique identity, rooted in ethics, humanism, solidarity, and the Hippocratic tradition.

The 232nd WMA Council Session offers a unique forum for the exchange of knowledge, critical reflection, and collaborative dialogue on pressing global health challenges. Such interactions broaden our understanding, foster innovative solutions, and reinforce our shared mission to safeguard public health. By engaging in constructive debate and sharing evidence-based insights, we not only enhance our individual professional practice, but also contribute collectively to the advancement of medicine and the creation of a healthier, more equitable world.

In fulfilling our duty as physicians, our responsibility extends beyond individual patient care. We are entrusted with safeguarding the health of entire communities, advocating for equitable access to care, and promoting resilience within healthcare systems. Engagement in such international gatherings allows us to confront emerging global challenges and collectively develop strategies that advance both local and global public health. By bridging differences in perspectives, beliefs, and cultural backgrounds, we enrich our professional insight and contribute meaningfully to shaping a medical practice that is ethical, inclusive, and globally responsive.

Serbia has a long-standing tradition of excellence in medicine. The Serbian Medical Chamber, founded in 1901, has upheld the principles of professional integrity, ethical practice, and continuous advancement. Today, we proudly represent over 38,000 physicians, including members of our diaspora who continue to contribute globally to medical science and healthcare. Our doctors have played a significant role internationally, through pioneering discoveries, compassionate service, and unwavering dedication to

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excellence. Building on this rich tradition, we approach the 232nd Council Session with a commitment to innovation, evidence-based practice, and active participation in shaping global healthcare policies. Guided by the core principles of compassion, competence, and professional autonomy, we remain dedicated in our pursuit of high-quality care and our responsibility to improve public health and quality of life.

We warmly invite you to join us in Belgrade in April 2026, to experience our city's history, culture, and renowned hospitality - and most importantly, to stand together in advancing the WMA mission, ensuring that medicine remains a force of hope, solidarity, and human progress.

We look forward to welcoming you to Belgrade!

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The 3rd Open Expert Meeting on the Revision of the Declaration of Taipei on Ethical Considerations regarding Health Database and Biobanks

1-2 June 2026
The Vatican City

WMA

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Interview with the Chairperson of the WMA Associate Members

Julie Bacqué

For this interview, Dr. Julie Bacqué, the Chairperson (2025-2028) of the Associate Members, shares her perspectives on her education and training, challenges facing physicians in clinical practice, past and future activities, and key priorities for World Medical Association (WMA) members, with Dr. Helena Chapman, the WMJ Editor in Chief.

Can you describe your medical training and professional experiences, and how this insight has helped prepare you for your new role as Chairperson (2025-2028) of the WMA Associate Members?

Trained in family and emergency medicine, I have worked as a senior emergency physician in a teaching hospital for the past 10 years. As emergency medicine is frontline, bedside care, key pillars include immediate clinical judgment, direct responsibility for patients, and the ability to navigate complexity under pressure. It is also inherently collaborative, requiring constant coordination across disciplines and professions. This combination of direct patient care and interprofessional teamwork has shaped my leadership approach as structured, grounded, and deeply collaborative.

Alongside clinical practice, I have remained actively involved in professional organisations at local, national, and international levels since my undergraduate studies. This engagement progressively introduced me to governance processes, intercultural dialogue, and project coordination across diverse settings. Furthermore, before studying medicine, I completed a Bachelor's degree in International Business and Languages with a focus on intercultural communication and management. This early exposure to international environments fostered a lasting commitment to cross-border collaboration, an orientation that aligns closely with the WMA mission. Together, these experiences have prepared me to approach this role with respect for process, commitment to dialogue, and a strong sense of collective responsibility within global physician representation.

What excites you most about stepping into this new leadership role?

My leadership role centers on fostering meaningful engagement in WMA activities, so that Associate Members can actively participate in shaping its work. This unique collaboration excites me most about this role. Associate Members bring extraordinary diversity: clinical experience, academic insight, field expertise, and cultural perspectives from across the world. As Chairperson, I am motivated by the possibility of structuring that diversity into coherent, visible, and impactful contribution.

At the same time, engagement should be reciprocal. My role is not only to channel input toward the WMA, but also to create pathways through which Associate Members grow: gaining access to global health governance processes, strengthening their understanding of international medical ethics, and building cross-border professional networks. With prior leadership roles in the Junior Doctors Network, I am particularly attentive to continuity and leadership development. Together, we can build bridges between generations, regions, and between clinical realities and international deliberations, so that Associate Members become both a voice and a learning community within the global medical sphere.

Why should physicians become WMA Associate Members?

Becoming an Associate Member of the WMA offers physicians a direct opportunity to contribute to international medical policy and global health dialogue. The WMA represents the highest level of global physician representation, promoting the foundational values of medical ethics, scientific rigor, professionalism, equity, and inclusiveness. In a time marked by polarization, misinformation, and growing uncertainty in global health governance, these values require not only endorsement but active engagement from physicians.

Associate Membership is both an honor and a responsibility: an opportunity to help uphold the integrity of the profession, strengthen collective advocacy, and ultimately act in the best interests

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of patients everywhere. It creates a concrete space for individual physicians to contribute their clinical experience and expertise to international discussions. It allows engagement beyond national boundaries and ensures that the voices of practicing clinicians, including those from countries without a national medical association represented at the WMA, are part of global policy development. It is a space where professional responsibility extends from the bedside to the international arena, with connections that support daily clinical practice.

What three challenges in clinical practice are most pressing for physicians today and warrant collective debate among WMA Associate Members?

First, the *erosion of trust in science and institutions.* The spread of misinformation and the rejection of evidence-based medicine threaten public health outcomes and the credibility of the medical profession. In this context, physicians' voices should be clearly heard through coordinated reflection on how we communicate, advocate, and defend scientific integrity while maintaining constructive dialogue with patients and communities.

Second, the *global healthcare workforce shortage.* Burnout, uneven workforce distribution, demographic shifts, increasing administrative burdens, and evolving models of care are placing health systems under considerable strain. These pressures affect working conditions, continuity of care, quality standards, and patient safety. Addressing this challenge requires structural advocacy, improved workforce planning, thoughtful integration of task distribution within healthcare teams, and renewed commitment to sustainable professional environments that allow physicians to practice effectively and ethically in changing systems.

Third, the *fragility of access to care and universal health coverage in many regions.* When health systems face competing priorities and financial constraints, inequalities tend to widen, particularly in conflict-affected settings where infrastructure and workforce stability and safety are directly compromised. In a global context where even multilateral health coordination faces structural and political pressures, safeguarding equitable access to care requires sustained and unified advocacy. Health remains a fundamental human right that the global medical community must collectively safeguard.

Over the past few years, WMA Associate Members have actively contributed to webinars, newsletters, scientific publications, and policy development. Can you share some activities where WMA members can continue to contribute meaningfully over the next year?

Associate Members already play an active role in WMA activities, and these established avenues of engagement will continue into the future. Their participation in webinars and contributions to the *World Medical Journal* and other WMA platforms remain important channels to exchange expertise and strengthen the visibility of Associate Members' perspectives. In addition, the coming year offers important opportunities within ongoing WMA processes. Associate Members will be encouraged to contribute to regional meetings related to the ongoing revision of the *Declaration of Taipei on ethical considerations regarding health databases and biobanks,* which can help shape the evolution of foundational ethical guidance at the international level.

Providing structured input on policy documents circulated for comment ahead of the WMA Council Sessions and General Assemblies remains central. Building on this core function, my intention is to introduce a more structured and forward-looking approach to engagement. These efforts include launching policy discussion meetings ahead of key deadlines, designed to streamline collective input and foster collaborative discussion before formal submissions. In parallel, new thematic webinars will deepen reflection on priority issues and strengthen informed participation. I plan to launch a process to map expertise of Associate Members, so that their competencies are more effectively aligned with ongoing projects and working groups. The objective is to transition from primarily reactive contributions toward a more coordinated, strategic, and sustained form of engagement, ensuring that Associate Members' involvement is meaningful and impactful.

What are three key priorities that WMA Associate Members can help lead and address collectively over the next five years?

A first WMA priority we can build together is the renewal of our foundational ethical frameworks. The revision of key declarations is an opportunity to ensure that medical ethics remains

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living guidance: clear, applicable, and credible in a world where practice environments, technologies, and societal expectations evolve rapidly. As practicing clinicians, Associate Members bring the reality of the bedside to these discussions, where ethical principles are enacted in daily decisions. Together, we can ensure that global standards remain firmly connected to clinical practice.

A second priority is safeguarding and evolving physician-led care. Health systems are being reshaped by demographic pressures, workforce constraints, and economic reforms. Associate Members, as physicians, stand at the frontline of these transformations. By sharing lived clinical experience across borders, we can help shape models of care that preserve quality, accountability, and trust while embracing innovation responsibly. Physician leadership in clinical decision-making ultimately protects what matters most: care grounded in competence, ethics, and professional responsibility.

A third priority is advancing health equity and addressing the social determinants of health. Inequities are encountered every day in clinics, emergency departments, and community practices, and the strength of the Associate Membership lies precisely in this proximity to patients. When bedside realities inform international dialogue, advocacy becomes credible and action becomes coherent. Collective engagement begins in individual clinical encounters, and extends into shared global responsibility, always anchored in the best interests of our patients.

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Interview with the President of the World Veterinary Association

John de Jong

For this interview, Dr. John de Jong, the President of the World Veterinary Association (WVA), shares his perspectives on his global health leadership, the future of veterinary medicine, existing challenges in veterinary medical education, and key priorities for WVA and World Medical Association (WMA) members, with Dr. Helena Chapman, the WMJ Editor in Chief.

Over the past two years, what do you consider to be your most important leadership achievements as WVA president (2024-2026)?

As I look back on my two-year term as WVA president, I am most proud of several achievements. First, I believe that my energy, enthusiasm, passion, and pride for my profession have allowed me to promote and advocate for greater international visibility of veterinary medicine. In addition, my attendance and proactive participation in various international organizational events, such as the WMA, World Health Organization (WHO), World Organisation for Animal Health (WOAH), World Small Animal Veterinary Association (WSAVA), United Nations, and the World Health Summit, has provided me with unique opportunities to strengthen the visibility, credibility, and recognition of the WVA. I am also pleased to have attended and shared videos to our member organisations to affirm that they are seen, heard, and appreciated.

During my tenure, the following contributions stand out as key highlights and honors. First, I served as an invited speaker at the UN General Assembly in May, and again in September 2024, representing the veterinary viewpoint and role in addressing antimicrobial resistance (AMR) in preparation for the political declaration at the High-Level Meeting on AMR [1] (Photo 1). Next, when *Time Magazine* published its inaugural issue recognising the 100 Most Influential People in Health in May 2024, I was shocked and disappointed that no person representing animal health or veterinary medicine was included [2]. This observation prompted me to communicate with *Time Magazine* and request that they rethink the scope of their recognition with veterinary medicine as an essential part of health. Fortunately, two prominent leaders in animal health were recognised on this prestigious list in 2025.

Photo 1. Dr. John de Jong highlighted WVA's long standing commitment to combat AMR globally at the multistakeholder hearing at the United Nations on Antimicrobial Resistance in May 2024. Credit: John de Jong

Third, I suggested to the WMA that the WMA and WVA update, refresh, and renew our MOU, encouraging us to work more closely together. I am pleased to see that come to fruition when we signed it in July 2025, reinforcing our respective organisations shared commitment to One Health [3]. Fourth, I was an invited keynote speaker on One Health at the 5th One Health International Forum in Fukuoka in February 2025 (Fukuoka, Japan), the International Veterinary Students' Association (IVSA) General Assembly in August 2025 (Taipei, Taiwan), the WMA General Assembly in October 2025 (Porto, Portugal), and the FedMVZ National Convention in January 2026 (Monterrey, Mexico) (Photos 2-3). I have worked hard at strengthening the WVA relationship with the IVSA and obtained a financial award (5,000 Euros) as my President's Award, enabling them to do much more to build their organisation. After all, our veterinary students are the future of the profession. Finally, I have led and contributed to advancing and securing unprecedented sponsorship levels for the WVA, as well as attracting new member organisations and elevating the WVA's global

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reputation.

Aside from the coronavirus disease 2019 (COVID-19) pandemic, how would you describe the anticipated challenges in veterinary medical education over the next decade across the globe?

While I am not formally an educator in the academic realm, I am fully aware of the various challenges facing veterinary medicine, including those related to the education of future veterinarians. Graduating veterinarians will need to be more cognizant and deeply engaged in One Health to address the increased burden of zoonotic and emerging diseases, as well as the challenges of antimicrobial resistance (AMR). Veterinarians must navigate a rapidly changing world (including the use of artificial intelligence), ensuring adequate numbers of professionals to fill diverse roles and inspiring students and early-career professionals to enter clinical practice and also serve in other areas such as public health, epidemiology, food production, research, and beyond. We must preserve the broad base of general knowledge historically provided to graduating veterinarians, encouraging early-career veterinarians to avoid becoming overly specialised.

How do you envision the future of veterinary medicine as it relates to academic training and clinical practice?

The future of veterinary medicine shines bright, as many unexplored opportunities lie ahead (Photo 4). Highly relevant academic training must remain linked to clinical practice so that educators can effectively educate and train future veterinarians for their roles and meet employer needs. Clinicians must continue to play a key role in training veterinarians because not all aspects of the profession are purely academic. Veterinary medicine must attract and train young talent with excellent basic skills, including communication and common sense, while upholding rigorous standards that welcome only the best and brightest into the profession.

Photo 2. Dr. John de Jong (right) presented Dr. Felix Metzger (IVSA President) (left) with the WVA President's Award at the 74th IVSA Congress General Assembly (Taipei, Taiwan) in August 2025. Credit: John de Jong

Photo 3. Dr. Ashok Philip (WMA President 2024-2025) (left) and Dr. John de Jong (right) at the WMA General Assembly (Porto, Portugal) in October 2025. Credit: WMA

How can veterinarians lead efforts to effectively use next-gen technologies, including artificial intelligence, in the clinical workplace?

The most effective way to achieve these efforts is by ensuring that veterinarians are present and engaged at the table. As veterinarians, we must use our intellectual capacities to shape the evolution of these technologies as well as actively contribute to their creation, utilising our unique knowledge and creativity.

What three approaches can build and strengthen One Health collaborations between veterinary and human medical teams?

Building and strengthening One Health collaborations require a multi-faceted approach. First, organisations at the international, national, regional, and local levels

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must coordinate and collaborate effectively. Second, veterinary and human medical schools must educate their students on One Health, with professionals from each discipline serving as guest lecturers at each other's institutions promoting the benefits and real-world applications of One Health. Finally, educating the public (including starting with primary education) about how human health, animal health, and environmental health are all inextricably intertwined for sustainable health on Earth is necessary. Veterinary and human medical teams should always remember and emphasise that environmental health forms an essential part of this triad.

As WVA president, what are the four key priorities that the WVA and WMA members should address in the next five years?

First, sustained active leadership dialogue between the WVA and the WMA can accelerate the execution of the plans outlined in the updated MOU [3]. We cannot just 'talk the talk,' as we must also 'walk the walk.' Second, both organisations can coordinate a second joint Global Conference on One Health, as the first conference was organised in May 2015. This can lead to a biennial event attracting global leaders from both professions and key environmental health stakeholders [4]. Third, and perhaps most important, the WVA and the WMA can communicate with member organisations about the importance of One Health, including its education and implementation at the national levels. Finally, both organisations should commit to collaborating in educating governments and regulatory bodies, helping them to understand and adopt the One Health approach for the benefit of all.

Photo 4. Dr. John de Jong in his office with his dog, Radar. Credit: John de Jong

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Supporting Latin Ibero-American and Caribbean Dialogue at the CONFEMEL Meeting at the Vatican and the General Assembly

Jorge Coronel

Tomás Cobo Castro

Helena Chapman

"CONFEMEL stands as a firm and united voice in defense of physicians and the institutions that represent them." – Dr. Jorge Coronel (President, CONFEMEL)

Founded in 1997, the Latin Ibero-American and Caribbean Medical Confederation (Confederación Médica Latino-Iberoamericana y del Caribe, CONFEMEL) represents an estimated two million physicians in the region, with objectives to advocate for fair and solidarity health systems. Specifically, CONFEMEL supports medical institutions amidst political or institutional challenges, promotes professional dignity through ethical and professional standards, and fosters spaces for critical analysis and action that strengthen continued medical education and defend safe working conditions. The organization also collaborates with universities, non-governmental organizations, and governments, on educational, ethical, scientific, and social topics that promote the health and well-being of physicians, their families, and surrounding community.

Meeting at the Vatican

As a historic meeting, CONFEMEL representatives met with Pope Leo XIV at the Vatican on 2 October 2025 in Rome, Italy. The Pope welcomed CONFEMEL representatives, noting the importance of empathy and the human touch to strengthen the physician-patient relationship in medical practice. He acknowledged the growing role of novel technologies like artificial intelligence (AI) in society, but stressed that they cannot replace the physician's essential human role: *"An algorithm can never replace a gesture of closeness or a word of comfort"* [1]. In a period marked by global tensions and conflicts, where compassion and charity often seem forgotten, this meeting offered CONFEMEL members a spiritually and meaningful encounter – as a sign of hope and mercy.

CONFEMEL General Assembly

"This General Assembly offers a valuable opportunity to strengthen the union of Latin American and Ibero-American physicians, promote the exchange of knowledge, and articulate common visions and advance towards shared objectives." – Dr. Jorge Coronel (President, CONFEMEL)

Following the CONFEMEL meeting at the Vatican, the Spanish General Medical College (Organización Médica Colegial de España, OMC) served as the host for the CONFEMEL General Assembly on 5-7 October 2025, in Madrid, Spain (Photo 1). This meeting offered a space for physicians representing the Latin-Iberoamerican Region to discuss key national and regional health achievements and challenges, identify existing gaps in medical education, training, and practice, and develop sustainable solutions to protect and strengthen physicians' rights and leadership across the region. The Opening Session provided a framework for the collective meeting, emphasising the importance of physicians' leadership on priority topics of the region. Then, experts shared their insight and perspectives in four scientific sessions.

Opening Session

As part of the Opening Session, Dr. Jorge Coronel (CONFEMEL) welcomed CONFEMEL members and encouraged the Assembly to look to the future with responsibility and hope [2]. He recognised that the Americas region is impacted by job insecurity, violence against health professionals, deterioration of

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health systems, forced migration of medical professionals, and limited dialogue with policymakers, which propels our medical community to search for novel paradigms and strengthen medical leadership across academic, organisational, and political levels. He stressed that the dignity of our medical profession begins with ensuring fair working conditions, adequate compensation, and respect for the vocation in healthcare specialties. He underscored continued medical education as key to remaining up-to-date with clinical practice, understanding the complex health systems, and inspiring new generations.

Then, Tomás Cobo (OMC) emphasised that CONFEMEL has a unique position to lead the development of constructive postures and policies on topics that affect all physicians. He noted that medical associations provide vital expertise to policymakers, communities, and patients, grounded in their core mission of advancing clinical care and patient safety.

Photo 1. Attendees to the CONFEMEL meeting from 5-7 October 2025. Credit: CONFEMEL

Session 1: Continued Medical Training and the Revalidation and Accreditation of Competencies

"Medicine is a path where we interact with our communities, where each generation builds upon the foundation laid by the previous generation. In our medical profession, staying up-to-date is not a luxury, but rather a fundamental ethical duty where we are committed to excellence and patient care." – Dr. Carlos Cortes (President, Portuguese Order of Physicians)

In the first roundtable session, panelists shared diverse experiences of continued medical education, as well as revalidation and accreditation procedures, in Argentina, Brazil, and Portugal (Photo 2) [3]. Dr. José Ramón Huerta (OMC) moderated the session, reiterating the importance of physicians pursing lifelong medical training and clinical competency evaluations to continually update their knowledge and skills. A harmonised accreditation process, without conflicts of interest, strengthens clinical safety, reinforces confidence in the medical profession, and facilitates the free movement of specialists with high-quality standards.

Dr. Ruben Horacio Tucci (Superior Council of Medical Colleges of the Province of Buenos Aires, Argentina) recognised that medicine evolves over time, and as an ethical and legal responsibility, physicians must remain up-to-date on novel technologies, treatments, and scientific evidence to improve patient care. Periodic evaluation and recertification processes provide transparent and auditable tools to uphold national sovereignty. He commented that an estimated 35% of physicians working in Argentina are international medical graduates, typically from Colombia, Ecuador, and Bolivia, though many physicians are now returning to their home countries (rather than continuing to practice in Argentina). Additionally, more females (70% of physicians) are opting for less demanding specialties to balance work and family life, hence leaving gaps in specialty areas in Argentina.

Dr. Jeancarlo Cavalcante (Federal Medical Council of Brazil) shared that the number of medical schools in Brazil has increased substantially over the past century – from 81 in 1959, 115 in 1994, 436 in 2002, to an anticipated 470 in 2025 – leading to challenges in maintaining the quality of medical curricula. A total of 78% of the municipalities with medical schools do not have sufficient infrastructure, and 92% do not adhere to the minimum requirements set by the Ministry of Education. He described the *Law 2294* (2024) that designates the national exam (ensuring medical competencies) is required to practice medicine in Brazil, observing that 80,000 physicians are practicing in

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Bolivia, Paraguay, and Argentina.

Dr. Joao Grenho (European Union of Medical Specialists, UEMS) remarked that the UEMS does not defend medical recertification due to the lack of scientific evidence and existing challenges (e.g., losing time with patients, increased costs, inequalities especially with junior doctors in rural areas). The UEMS utilises the European Training Requirements (ETRs), which establishes the quality and homogeneity in training according to the European standards for each medical specialty and the European Accreditation Council for Continuing Medical Education (EACCME).

Dr. Carlos Cortes (Portuguese Order of Physicians) commented on *Article 135 (Competences in international relations)*, noting that the acquired knowledge and skills represent opportunities to improve patient care and enhance physician-patient trust in medical practice. He described general and specialty physician training, observing that some physicians seek the role as a service provider (vs seeking specialty training), and concluding their training as a specialist or consulting physician (after five years of clinical practice).

Dr. Silvia Jakinczuk (Association of Municipal Doctors of Buenos Aires, Argentina) described the *Article 21* as a collective agreement adopted in 2010, where specialist physicians with a 30-hour work schedule should have 24 hours in their clinical workplace and six hours for in-service training. She also shared that COMRA leaders signed an agreement with the University of Buenos Aires' Faculty of Medicine to allow physicians working in municipal hospitals for free recertification of their specialty every five years, which although not mandatory, offers a financial benefit (20% of salary adjustment).

Photo 2. Moderator and panelists of Session 1 at the CONFEMEL meeting from 5-7 October 2025. Credit: OMC

Session 2: Violence in the Health Sector

"Workplace violence is a rising problem that negatively affects physical, mental, and emotional health and well-being. Collective action is essential to develop timely policies and practices that protect safeguard physicians' rights and dignity."

– Dr. Jorge Coronel (President, CONFEMEL)

In the second session, panelists shared concrete experiences of violence in the health sector and approaches to protect physicians' health and well-being from Uruguay, Bolivia, Argentina, and Spain (Photo 3) [4]. Dr. José María Rodríguez (OMC) moderated the session, recognising that safety of and respect for health professionals is fundamental for the medical profession. As medical organisations advance pioneering initiatives to tackle rising workplace violence, leaders must encourage incident reporting and collectively work to foster a cultural shift to end physical and verbal harm against the health workforce.

Dr. José Minarrieta (Medical Union of Uruguay, SMU) stressed that reports of physical, verbal, psychological and symbolic, sexual, and institutional and workplace (harassment, mobbing, discrimination) violence require diverse responses related to prevention, protection, legal coverage, and redress. He noted that the SMU developed guidance materials, including the "Procedural Manual for Addressing Aggression against Physicians and Health Professionals" ("Agresiones contra Médicos y Practicantes: Guía de Procedimiento") in 2009, and coordinated with the Ministry of the Interior and the Public Prosecutor's Office to improve legal and operational support. Supporting existing institutional and union protocols, the SMU has proposed to advance safety through: a) mandatory implementation of action protocols with defined reporting channels and workplace protection measures; b) mandatory conflict management training for healthcare teams and emergency responders; c) provision of legal support and systematic psychological counseling for victims and a national registry of aggressions; d) strict enforcement of the aggravating circumstances

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Photo 3. Moderator and panelists of Session 2 at the CONFEMEL meeting from 5-7 October 2025. Credit: OMC

already established by law; and e) specific protection and care measures for individuals receiving treatment in alternative care settings.

Dr. Rommel Pereira (Medical College of Bolivia) presented that the consequences of violence in the health system affect physicians (e.g., stress, anxiety, depression, burnout syndrome, physical injury), patients (e.g., reduced quality of care or satisfaction, increased medical errors), and health systems (e.g., increased costs, decreased productivity, reduced retention of health professionals). He affirmed that the robust investment in and the implementation of preventive measures can significantly reduce violence risks within health systems.

Dr. Ignacio Ellif (Medical Federation of Buenos Aires, Argentina) summarised findings from a decade-long review of biannual surveys in Argentina, identifying common factors of violent acts and parallels across health systems in Latin America and the Caribbean (including Brazil and Uruguay). These findings can help drive the development of case studies, robust policies, and timely initiatives to enhance physicians' health and well-being in the clinical workplace. As an example, he outlined the Physician Violence Prevention Program (Programa de Prevención de la Violencia de los Médicos) in Argentina, as a national program to train physicians to effectively respond to incidents, provide reports to authorities, de-escalate any challenging situation, and access psychological and legal support.

Dr. Manuel Yanguas (Central Private Security Unit, Madrid) emphasised that the diverse causes of workplace violence are directly affecting physicians' mental health and well-being in their daily clinical responsibilities. He described the Spanish collaborative model between the National Police and health organisations (increasing police patrols to high-risk centers), how the Spain Ministry of the Interior adopted a formal protocol on police measures (in case of acts of violence or intimidation of health professionals), and the creation of the Territorial Healthcare Police Liaison Officer role (as a central point of contact). He highlighted the presence of the National Observatory of Aggressions (Observatorio Nacional de Agresiones), while emphasising the need to unify legal sanctions at national and regional levels and to raise awareness through community campaigns.

Session 3: Mental Health of Physicians in Latin America

"Mental health of physicians remains a cornerstone of healthcare quality. Together, we can address this challenge through bold and ambitious policies, broad consensus across institutions, and consistent listening to the voices of health professionals." – Dr. Tomás Cobo (President, OMC)

In the third session, panelists offered concrete examples about mental health challenges across Spain, Portugal, Mexico, Peru, and Chile (Photo 4) [5]. Dr. María Isabel Moya (OMC) moderated the session, highlighting that one in three physicians worldwide has been diagnosed with depression or anxiety, and more than half have experienced burnout syndrome. She mentioned that OMC leaders implemented the Comprehensive Care of the Sick Physicians Programme (Programa de Atención Integral al Médico Enfermo, PAIME) in 1998, serving more than 8,000 physicians with over 90% achieving successful outcomes and returning to clinical practice [6]. Amid intense clinical demands and the pressure to deliver high-quality patient care, medical students and other health professions face increased mental health risks. She commented that PAIME has broadened its reach to support medical students and other health professionals by promoting stress management and other healthy behaviors.

Dr. Alberto Caldas (Portuguese Order of Physicians) commented

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that Portuguese physicians working in primary and hospital care settings are experiencing high rates of depression, workplace harassment, and burnout. The Portuguese Order of Physicians actively supports recognising medicine as a high-risk profession, which is associated with federal resources, prevention, and supportive policies, and they developed a national database where health professionals can document acts of violence, harassment or other mental health concerns. He emphasised the need to invest in timely policies and strategies that can protect the physical and mental health and well-being of all health professionals.

Dr. Pedro Riega López (Medical College of Peru) expressed that mental health remains a significant challenge in Peru, where nearly 12% of medical residents reported suicidal attempts during training, and two-thirds of physicians do not find their work effective or meaningful. As one national example, the launch of the Support, Monitoring and Supervision Program (Programa de Acompañamiento, Seguimiento y Supervision, RESPIRA) in the Rural and Marginal Urban Health Service (Servicio Rural y Urbano Marginal de Salud, SERUMS) focuses on physicians' mental health, legal defense, and training.

Dr. Jaime José Gutiérrez (Medical College of Mexico) shared findings that Mexican physicians are experiencing burnout syndrome (30-60%), depression (20-45%), anxiety (40-80%), and suicide (double risk when compared to general population). He stated that risk factors include extensive work schedules, workplace violence and harassment, and lack of confidential programs. He said that the *NOM-035* (2018) regulation, adopted by the Ministry of Labor and Social Welfare in 2018, has irregularly detected, managed, and prevented psychosocial risk factors among hospital employees.

Dr. Mauricio Osorio (Medical College of Chile) commented on the overburdened healthcare system in Chile, with job insecurity, long work schedules, exposure to violence, and territorial inequalities. He noted the culture of professional sacrifice and stigma surrounding mental health challenges, with limited training in self-care measures. He agreed that an integral approach is key to reduce absenteeism, turnover, and healthcare expenditure, increase quality of care, and promote self-care and medical leave when necessary.

Session 4: New Paradigm: One Health in the Scope of CONFEMEL

"As humans depend on a complex ecosystem for our survival, we must advocate for climate action that can protect our planet and all living organisms. These urgent collaborations – bringing together multiple scientific disciplines and sectors – form the foundation of the One Health concept." – Dr. Tomás Cobo (President, OMC)

In the fourth session, panelists offered compelling cases illustrating the interconnectedness of human, animal, and environmental health underscoring the urgent need for multidisciplinary and multisectoral collaborations to address emerging health risks (Photo 5) [7]. Dr. Jorge Coronel (CONFEMEL) moderated the session, highlighting that the One Health concept offers a holistic framework for the development of public policies and practices that strengthen health system preparedness and resiliency.

Dr. Juan Francisco Pasquel (Medical College of Pichincia, Ecuador) described the active environmental health risks of the Cotopaxi volcano (including the Pito river) to the Latacunga community, as a result of poor territorial planning and inadequate municipal preparedness. The 2015 eruption caused widespread infrastructure damage and increased mortality rates in Quito. The Medical College of Pichincia contributes to community participatory activities that are crucial for preparing communities against potential volcanic eruptions.

Photo 4. Moderator and panelists of Session 3 at the CONFEMEL meeting from 5-7 October 2025. Credit: OMC

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Photo 5. Moderator and panelists of Session 4 at the CONFEMEL meeting from 5-7 October 2025. Credit: OMC

Dr. Samuel Santos (Medical College of Honduras) outlined risks in Honduras, including indiscriminate antibiotics use in livestock and poultry driving antimicrobial resistance, deforestation and climate change altering ecosystems, and heightened vector exposure with reduced agricultural resilience resulting in emerging and reemerging diseases (including zoonoses). Honduras pioneered Central America's participation in the One Health Zoonotic Disease Prioritization workshops, while the Medical College of Honduras has conducted academic workshops, secured biosafety lab certification, and supported Wolbachia mosquito releases through collaborations with the National University of Honduras and Doctors without Borders.

As a family physician, Dr. Raquel Gutiérrez de Mock (Medical College of Panama) highlighted how accelerated urbanization, environmental contamination, and social fatigue are compounded by linked health impacts (e.g., enteric diseases, dermatitis, zoonoses) to water contamination from agricultural runoff (e.g., pesticides, nitrates, pig farms) in Chiriqui, Los Santos, and Herrera provinces, as well as toxic industrial and urban landfills in Colon province. She further described urban risks, such as exposure to harmful aerosols and particulate matter from traffic and industry, dust from waste and construction, extreme noise pollution, and plastic pollution, which are tied to higher hypertension risks and poorer academic performance – as a call for responsible autonomy and intergenerational justice.

Dr. Hermann Schwarz (One Health Platform) introduced the One Health Platform, founded in 2021, uniting over 121 members representing hundreds of professionals. It has fostered key initiatives like the Climate Health Cluster (https://climate-health.eu/), featuring Work Groups on Health and Climate Change that host roundtable discussions and contribute to the Lancet Countdown. He emphasised physicians' key role in societal impact through public health education, policy development, and clinical care for patients and communities.

Declarations of Madrid and Gaza

During the CONFEMEL meeting, representatives adopted the Declaration of Madrid that outlined eight principles that highlight physicians' commitment to solidarity, human dignity, and cooperative action to protect health, uphold ethical standards, and address environmental, humanitarian, and social challenges [8]. First, reaffirming physicians' contributions to professional medical organizations and commitment to strengthening the physician–patient relationship will be essential to preserving the humanistic touch in medical practice. Second, reinforcing physicians' commitment to ethics and medical deontology are important pillars that guide physicians towards the defense of life, human dignity, and the common good. Third, defending continuing medical education, recertification, and periodic accreditation as physicians' ethical duty and right is essential for quality care and patient safety. Fourth, rejecting all forms of violence against physicians and other health professionals, including physical assaults, structural forms of precarious employment, and workplace harassment, is essential to protect their health and well-being.

Fifth, proclaiming that physicians' mental health is a priority that is directly linked to the quality of patient care and sustainability of healthcare systems sets the foundation for safe workplace conditions. Sixth, defending human rights and respect for international humanitarian law must be universal, including reference to the Geneva Declaration and medical neutrality. Seventh, demanding universal, equitable, and quality access to healthcare is

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a fundamental human right that is directly connected to social and environmental justice. Finally, declaring the climate emergency is direct threat to public health, which exacerbates inequalities, increases disease, and jeopardizes delicate ecosystems of the planet, and promoting the One Health paradigm are interconnected strategies to address this global challenge.

The Declaration of Gaza highlighted five principles that affirm that medicine cannot exist without respect for life, human dignity, and access to healthcare. The commitment to care for and protect life lies at the heart of our professional ethics, and this duty transcends borders, creeds, and ideologies [9]. First, rejecting attacks against medical facilities, ambulances, physicians, and other health professionals is essential, as they must protect spaces and personnel according to the Geneva Conventions. Second, condemning the use of hunger and health blockades as weapons of war must be executed to avoid a flagrant violation of human rights. Third, demanding the immediate and sustained opening of humanitarian corridors to guarantee access to food, water, medicine, and healthcare, can offer space for medical intervention and evacuation of the wounded. Fourth, expressing our dismay at the death and trauma of thousands of children and adolescents, the long-term physical and psychological impacts will affect an entire generation. Fifth, advocating for the protection and support of health professionals is indispensable, as they perform tasks through their vocation under extreme conditions.

Conclusion

"Together, we can collectively raise our voices as physicians to strengthen our institutions and redesign a more just, accessible, and humane health system for the Latin Ibero-American and Caribbean region." – Dr. Jorge Coronel (President, CONFEMEL)

In his closing remarks, Dr. Jorge Coronel (CONFEMEL) applauded the OMC's Organizing Committee for their successful hosting of the CONFEMEL General Assembly. He urged CONFEMEL members to look beyond the current challenges and seek opportunities to collaborate on initiatives that promote a more humane, equitable, and sustainable healthcare system in the Latin Ibero-American and Caribbean region. The meeting agenda, which incorporated four scientific sessions guided by expert moderators and panelists, offered an open platform to discuss the topics of continued medical education and training, workplace violence, mental health and well-being, and the One Health concept, as they relate to medical education and training. The panelists shared concrete examples across multiple countries, illustrating key challenges that physicians experience throughout their professional practice, as well as identifying calls to action that aim to safeguard physicians' rights and health and well-being in the workplace. This meeting demonstrated that national medical associations serve as key voices that contribute valuable scientific expertise and help expand professional networks and partnerships across the Latin Ibero-American and Caribbean region.

Acknowledgments

The authors appreciate the dedicated efforts of the Spanish General Medical College (Organización Médica Colegial de España, OMC)'s Organizing Committee to serve as the meeting host. They thank the CONFEMEL leaders for developing a comprehensive agenda, including the four roundtable sessions focused on physicians' rights and health and well-being – education and training, workplace violence, mental health, and One Health contributions. They also acknowledge the panelists for their time to present energising scientific presentations that facilitated collective dialogue among attendees representing 14 nations.

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World Medical Journal

WMA at COP30: Championing Health in the Heart of the Amazon in Brazil

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The World Medical Association (WMA) delegation participated in the 30th Conference of the Parties (COP30) to the United Nations Framework Convention on Climate Change (UNFCCC) in Belém, Brazil, from 10-21 November 2025. Set against the backdrop of the Amazon rainforest, the "Physician's Prescription" theme for this COP was clear: global leaders must formally recognize that the climate crisis is a health crisis. The delegation was led by Dr. Ankush Bansal (United States), who participated virtually alongside Dr. Johanna Schauer-Berg (Austria) and Dr. Lekha Rathod (India) (Photo 1). Dr. Mohamed Osman (Sudan) represented the WMA in Belém. This hybrid structure ensured a comprehensive global presence, allowing the team to monitor negotiation sessions and engage in daily policy meetings with the Global Climate and Health Alliance (GCHA).

Belém Health Action Plan: Operationalising Health System Adaptation and Resilience

A historic milestone for the climate and health movement was reached with the launch of the Belém Health Action Plan (BHAP) [1]. This is the first global document focused exclusively on helping health systems adapt to climate change by providing health professionals with the training, resources, and influence needed to respond to climate-related threats. The plan also aims to operationalize the Global Goal on Adaptation (GGA) by prioritising local communities and Indigenous Peoples to protect the most vulnerable. Although the BHAP lacks mandatory public funding commitments, it was immediately backed by over US $300 million in pledges from philanthropic foundations and private donors to tackle extreme heat, air pollution, and infectious diseases. Even though health was higher on the UNFCCC agenda at COP30, concrete implementation mechanisms and timelines were weak or missing in the BHAP. The future will show if it spurs climate adaptation in health systems globally or remains an aspirational document. In addition, the absence of many parties and countries from the formal launch of the plan, coupled with the lack of formal endorsement by several parties, suggests a potential gap in high-level political commitment to health-centred climate action (Photo 2).

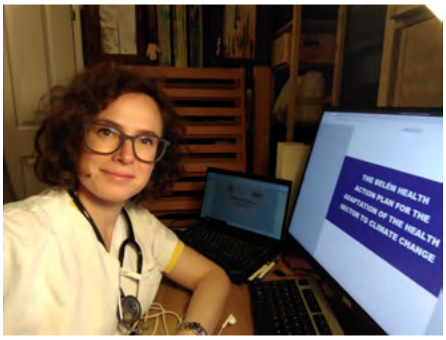

Photo 1. Dr. Johanna Schauer-Berg followed the meeting proceedings and negotiations virtually, 10-21 November 2025. Credit: WMA

Political Negotiations

In the negotiation rooms, progress was achieved with the formal adoption of a set of indicators under the GGA, which finally includes specific metrics for health. This provides a vital tool for measuring global progress toward health adaptation, although the scale of financial support remains a major hurdle. While parties reaffirmed the commitment to triple adaptation finance for developing countries, the deadline for reaching this target was formally pushed back to 2035. This delay is particularly disappointing for vulnerable nations facing immediate health impacts, as it leaves them without the necessary means of implementation in the short term.

The conference also saw the establishment of the Belém Action Mechanism (BAM) to facilitate shared learning and technology transfer, particularly for the Global South. This framework is designed to connect efforts across sectors and countries while mobilising non-debt-creating finance to help implement transition plans. By linking climate ambition with social and economic outcomes, the mechanism seeks to remove systemic barriers like debt burdens and unfair trade rules that hinder an equitable transition. Nevertheless, the official COP30 agreement failed to include a binding plan to phase out fossil fuels, meaning that the primary drivers of air pollution and heat-related mortality continue without a definitive end date.

The Santa Marta Conference: A Roadmap for Implementation

Building on these developments, Colombia and the Netherlands launched a joint initiative to host the Santa Marta Conference in April 2026, creating a dedicated space for “coalitions of the willing” to develop a concrete roadmap for a fossil-free future. This summit aims to move beyond high-level promises by addressing three priority areas: overcoming economic and fiscal dependence, transforming global supply and demand, and advancing international cooperation and multilateralism. By bringing together governments, academia, and civil society, the conference aims to focus on identifying new green revenue streams and alternative development models for fossil-fuel-dependent nations.

WMA Engagements

The delegation was highly active on the ground, utilising the Health Pavilion to amplify critical messages through the Junior Doctors’ Network (JDN). At the first event, which focused on air pollution, the delegation highlighted the ongoing health crisis stemming from fossil fuel dependency. We emphasised the indispensable role of physicians

Photo 2. COP30 Presidency Health Plan Launch by UNclimatechange, CC BY-NC-SA 4.0. Credit: UNFCCC (https://www.flickr.com/photos/unfccc/54921687670/in/album-72177720330286170/)

Photo 3. Dr. Mohamed Osman (second from left) spoke at a side event in the Health Pavilion on 17 November 2025, calling for immediate action to prevent the escalation of the climate crisis. Credit: WMA

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in advocating for aggressive mitigation to reduce the millions of premature deaths caused by deadly air pollution, in line with WMA's policy on Air Pollution and Health [2]. During the second event, the delegation delivered a stark warning against political procrastination, arguing that immediate action is the only way to prevent the climate and health crisis from escalating unchecked by the time of COP60, 30 years from now (Photo 3).

Beyond these speaking engagements, the WMA actively engaged with party delegations from South Africa, Mauritania, Iraq, and Sudan. These meetings, held in coordination with other members of the health community, were used to stress the direct impacts of climate change on local populations and push for the integration of health metrics into national climate planning. It should be acknowledged that COP30 advocacy efforts unfolded amid escalating geopolitical tensions, alongside more tangible disruptions, including flooding of one COP30 pavilion and the evacuation of the venue due to a fire (with no casualties).

WMA beyond COP30

The meaningful integration of health into climate policy requires a significant increase in the direct engagement of medical professionals across all levels of global governance. The WMA must maintain its dedicated presence at these summits, serving as a vital conduit for the global medical community's expertise. To support this mission, the WMA and its national member associations (NMAs) are encouraged to adopt a dual-track engagement strategy by increasing the number of health professionals serving as impartial observers within civil society, particularly within their own countries, to provide independent, evidence-based testimony. Concurrently, physicians can offer high-level technical expertise by seeking formal roles within official national delegations, ensuring that negotiators have immediate access to the health implications of climate policy decisions (Photo 4).

Recommendations for Constituent Members and Associate Members (AMs)

- *Active contribution to WMA processes:* NMAs and AMs can enhance global policy by providing technical inputs and sharing localised best practices regarding healthcare sustainability directly in different WMA spaces and fora.
- *Advocacy for sustainable healthcare transformation:* NMAs serve as the primary champions for highlighting the intersection of climate change and health within their domestic borders and may lobby with their governments to sustainably transform healthcare.
- *Knowledge exchange of best experiences:* NMAs can document and share institutional attempts to reduce the environmental footprint of medical practice, allowing for a more rapid scaling of successful interventions.
- *Training and capacity building:* NMAs and AMs may adopt and adapt various capacity building mechanisms to better care for their patients in a changing environment.

Recommendations for Parties

- *Integration of Health Ministries:* Involving Ministries of Health in the drafting of National Adaptation Plans ensures that public health priorities are represented by qualified health professionals.
- *Institutionalization of medical expertise:* Establishing formal

Photo 4. WMA collaborations with other health professional organisations, as part of the Global Climate and Health Alliance, in November 2025. Credit: WMA

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roles for health experts within climate policy-making bodies prevents the marginalization of health outcomes in broader economic or energy discussions. Next steps could include formalising the inclusion of health professionals in departments of environment or climate change. Identified climate-related diseases and risks through this work programme at a national level will enable physicians to have resources needed for patient care.

What does this mean for physicians?

Better prepare institutional capacity for health-related emergencies.

Support essential mental healthcare for affected communities.

Strengthen the global health workforce to address challenges faced by climate change.

Build resilient infrastructure and health supply chains, ensuring strategic stockpiling of essential health products.

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World Medical Journal

Treatment for All: A Global Mission for the Bleeding Disorders Community

Baiba Ziemele

Each year, the global community observes World Hemophilia Day (WHD) on 17 April, as an international awareness and advocacy initiative led by the World Federation of Hemophilia, a global patient organisation focusing on bleeding disorders. Inherited bleeding disorders are rare diseases, characterised by prolonged or spontaneous bleeding, recurrent joint hemorrhage, and often progressive disability, imposing substantial clinical, psychosocial, and economic burdens on individuals, families, and healthcare systems [1]. Although WHD celebrates major therapeutic advances, it simultaneously highlights persistent inequities in diagnosis, treatment access, and quality of life, particularly in low- and middle-income countries and among underserved populations such as women and girls. This article highlights how WHD has evolved beyond symbolic awareness into a strategic platform for policy change, patient empowerment, and global health equity.

Types of Bleeding Disorders

Bleeding disorders vary by type, subtype, and severity, complicating accurate diagnosis and treatment adjustment. Among the 15 inherited bleeding disorders, hemophilia is the best-known, while von Willebrand disease is the most prevalent. Hemophilia, including Hemophilia A (deficiency of clotting factor VIII) and Hemophilia B (factor IX deficiency), is diagnosed when factor VIII or factor IX levels are below 40%, irrespective of gender [2,3]. Although von Willebrand disease (VWD), a quantitative or qualitative defect in the von Willebrand factor, is considered the most common bleeding disorder, many symptomatic patients are still undiagnosed and untreated [4,5]. Also, there are several rare bleeding disorders that affect less than one in 50,000 individuals, sometimes even less than one in 1,000,000, attributed to deficiencies in clotting factors, genetic mutations that hinder the clotting process, abnormal platelet function, or unknown causes [6].

Early diagnosis and prophylaxis significantly improve outcomes, promoting longer, healthier, and more productive lives. Bleeding disorders present a diverse clinical spectrum: mucosal bleeding (e.g., epistaxis, gastrointestinal, oral, uterine), joint and muscle hemorrhages causing chronic pain and disability, post-injury or post-surgical procedures, or spontaneous bleeding. Women and girls experience additional challenges, including heavy menstrual bleeding and obstetric complications. Treatment options vary as some bleeding disorders respond well to multiple therapies, while others rely on basic treatments (e.g., fresh frozen plasma) in lieu of alternative or advanced therapies. Prophylaxis (regular factor replacement) is the gold standard for hemophilia to prevent spontaneous bleeds and is recommended for other high-risk conditions (e.g., VWD, non-severe hemophilia). Recent advances, including non-replacement therapies and hemophilia gene therapy, promise reduced treatment burden, although global access remains highly variable, with many countries limited to basic on-demand care.

WHD Origins and Development

The World Federation of Hemophilia (https://wfh.org/about-wfh/) established the WHD on 17 April 1989, commemorating the birthday of founder Frank Schnabel, as an opportunity to unite the global community and advocate for the "Treatment for All" vision. Supported by the national member organisations from 152 countries, this coordinated international campaign, combines education, community engagement, and policy advocacy on diverse themes reflecting global priorities. Recent themes, ranging from bleeding prevention and equitable recognition of all bleeding disorders to improved diagnosis, have increased the visibility of annual priorities, including the annual campaigns from 2022 ("Access for all. Partnership. Policy. Progress."), 2023 ("Access for All. Prevention of bleeds as global standard of care."), 2024 ("Equitable access for all. Recognising all bleeding disorders."), and 2025 ("Access for All. Women and girls bleed too."). The WHD 2026 theme, "Diagnosis: First step to care," underscores diagnosis as the essential first step in treatment and care. This theme aligns with the World Federation of

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Hemophilia estimates that over 75% of people with hemophilia worldwide remaining undiagnosed, with even larger gaps for other bleeding disorders, leaving hundreds of thousands without basic care (https://wfh.org/world-hemophilia-day/).

Awareness, Education, and Stigma Reduction

Healthcare professionals worldwide strive to halt bleeds and ensure precise diagnoses, yet limited laboratory capacity, inadequate training, and low public awareness result in delays, especially in low- and middle-income countries and remote areas in high-income countries. In some countries, stigma surrounding bleeding disorders, especially in women and girls, blocks access to medical care and normal lives. The World Federation of Hemophilia's Women and Girls with Bleeding Disorders Committee offers a platform for shared personal stories that humanize bleeding disorders, address cultural misconceptions and stigma, foster stakeholder collaboration to share knowledge, and encourage timely care-seeking to strengthen health systems for the WHD, the World Hemophilia Congress (https://wfh.org/congress/), and the Global Summit on Women and Girls with Bleeding Disorders (https://wfh.org/wgbd2025/). Further training can expand on these conference events by focusing on medical personnel (for symptom recognition and referral) and patients and families (to counter generational normalization of bleeding).

Global Inequities in Care and Access

The World Federation of Hemophilia annually tracks global access to care and tailors their programs accordingly [7]. Despite progress, stark disparities persist: high-income countries offer comprehensive care and prophylaxis, improving life expectancy and quality of life, while low- and middle-income countries face diagnostic limitations, scarce clotting factor concentrates, and inconsistent treatment, which lead to higher rates of complications, disability, and mortality. Globally, an estimated 15% of individuals living with hemophilia access optimal care, constrained by cost, infrastructure, and national health priorities favoring prevalent conditions [8].

The World Federation of Hemophilia's Global Annual Survey identified an estimated 459,606 people with bleeding disorders worldwide in 2024 [7]. Hemophilia patients are unevenly diagnosed, with 85% in Europe, 62% in the Americas, 42% in the Eastern Mediterranean, 29% in the Western Pacific, 19% in South East Asia, and 8% in Africa [7]. Without diagnosis, treatment remains impossible, and the diagnostic gap may be even wider for other bleeding disorders.

Patient Advocacy and Civil Society

Patient advocacy organisations play a pivotal role, with national and international networks offering peer support, education, and policy representation. Advocates increasingly contribute to health technology assessments, reimbursement, and rare disease strategies by integrating lived experience into policymaking. The World Federation of Hemophilia led global patient community has advanced two key initiatives to transform treatment access. First, together with its partners, the World Federation of Hemophilia successfully advocated for including recombinant clotting factors and bispecific antibodies for hemophilia on the World Health Organization (WHO) Essential Medicines List, aligning global standards with evidence-based recommendations and facilitating national formulary integration [9]. Prior to the World Hemophilia Congress, the Global National Member Organizations Training will again equip patient communities with cutting-edge treatment knowledge, peer-to-peer best-practice sharing, and networking, fostering collaboration for the "Treatment for All" vision.

Second, on 3 February 2026, the WHO Executive Board approved the World Health Assembly resolution (*Global Action to Advance Health Equity for People with Hemophilia and Other Bleeding Disorders*), where the WHO and its Member States will recognize bleeding disorders as a global health priority and take critical step towards developing a coordinated global framework and concrete actions to address health inequities [10]. This resolution is expected to be adopted during 79th World Health Assembly in May 2026.

Conclusion

The WHD has evolved from a symbolic awareness event into a powerful instrument for global health advocacy, education, and policy engagement. It connects scientific progress with social justice by emphasising that equitable access to diagnosis, treatment, and comprehensive care is a fundamental health right.

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Transforming awareness into sustainable action – through policy reform, financing commitments, and strong patient participation – is essential to achieving the shared vision of treatment for all living with bleeding disorders, irrespective of geography, gender, or socioeconomic status.

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Personal Learning Plans as a Core Strategy for Contemporary Medical Education

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Medical education systems worldwide continue to rely heavily on traditional models of continuing professional development (CPD), largely structured around credit accumulation, attendance-based activities, and standardised content delivery. While these approaches may ensure formal compliance, they often fail to promote meaningful learning, reflective practice, and adaptive expertise in real-world clinical scenarios [1]. In an era characterised by increasing clinical uncertainty, system complexity, and rapid knowledge expansion, physicians are expected to apply guidelines and protocols, manage ambiguity, integrate patient values, and collaborate effectively across professional boundaries [2]. These demanding tasks cannot be adequately addressed through passive or episodic educational activities in academic classrooms or clinical rotations.

Considering contemporary medical education systems, there is growing recognition that CPD must extend beyond content transmission towards educational strategies that actively support professional judgement, self-regulation, and continuous learning embedded in practice [1]. As one strategy, personal learning plans (PLPs) are structured, learner-centered frameworks that enable physicians to identify their own learning needs, define relevant objectives, select appropriate learning strategies, and evaluate progress in relation to daily clinical practice [3]. Grounded in practice-oriented and learner-centred approaches, PLPs acknowledge that professional knowledge is actively constructed through engagement with real clinical problems, reflection, and social interaction.

Unlike traditional CPD activities, PLPs explicitly recognise the complexity and variability of clinical work. They encourage physicians to integrate knowledge, skills, attitudes, and professional values rather than focusing on isolated competencies. PLPs foster self-regulated learning, understood as the capacity to plan, monitor, and adapt one's learning processes over time, which has been identified as a key mechanism for effective lifelong learning in health professions education [4,5].

The shift from externally imposed requirements towards internally driven learning is a pedagogical and ethical approach in preparing physicians to address the challenges of contemporary medical practice. Maintaining professional competence is a moral responsibility directly linked to patient safety, quality of care, and public trust [2]. Accreditation standards for medical education programmes remain largely grounded in predefined educational objectives derived from needs assessments conducted by planning committees, assuming that learning will translate into sustained behavioral change in clinical practice. However, recent evidence indicates that objective-based planning models have only a moderate impact on knowledge acquisition and a limited effect on sustained behavioral change and patient-related outcomes when learning is not embedded in authentic clinical practice and reflective processes [6]. CPD therefore represents a dynamic process that integrates thinking and practice, bridging knowledge, behaviours, and skills to enable reflective and meaningful action across diverse clinical contexts [5].

Reflection, Practice, and the Development of Professional Competence

In the clinical workplace, learning emerges from physicians' direct involvement in real-world experiences rather than detached educational activities. Reflection during and after clinical encounters remains central to learning in complex clinical environments, as demonstrated in contemporary syntheses of reflective practice in health professions education [7]. Through

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this reflective practice, physicians can identify knowledge gaps, recognize limitations in performance, and generate learning goals that are directly relevant to patient care.

As new learning is applied to clinical practice, this dynamic reflective process often sparks further questions and challenges. The ongoing cycle of learning and adaptation contrasts with traditional static conceptions of competence and aligns with contemporary views of professional competence as contextual, evolving, and practice dependent [2]. This perspective highlights the need for educational frameworks that explicitly support continuous learning embedded within clinical work rather than episodic educational interventions.

The Essential Role of Mentorship

Mentorship is a critical component in strengthening the effectiveness of PLP-based programmes that emphasize learner autonomy [8]. Physicians often struggle to accurately self-assess their competencies, particularly in complex domains such as communication, teamwork, and professional judgement, which can limit the effectiveness of self-directed learning. Through guided dialogue and reflection, mentors can support learners in articulating realistic goals, interpreting feedback from clinical experiences, and sustaining a reflective stance towards their own practice.

Mentors can also render the unspoken aspects of practice explicit while confronting cognitive biases that hinder learning [8]. Beyond its educational function, mentorship reinforces the ethical dimension of medical education by fostering professional accountability, reflective dialogue, and shared responsibility for standards of care [2]. This relational component of learning is particularly relevant in clinical environments characterised by uncertainty and time pressure.

Lessons from an Implemented PLP Programme

In 2019, educational committee leaders of the Medical Federation of Buenos Aires Province, Argentina (Federación Médica de la Provincia de Buenos Aires, FEMEBA) designed and implemented a PLP focusing on physicians working across Argentina's health system where access to structured postgraduate training pathways was frequently unavailable [9]. This program aimed at strengthening professional competencies through practice-based learning, acknowledging that clinical contexts and professional demands evolve continuously and are inherently heterogeneous, complex, and uncertain in healthcare settings. Participants engaged in both "exploitation learning" (seeking and applying existing evidence, guidelines, and protocols) and "exploration learning" (innovating and identifying new approaches to complex or novel problems). Within this framework, mentors encouraged participants to question assumptions and explore alternative solutions when traditional approaches proved insufficient.

Following completion of the PLP, the FEMEBA team surveyed physicians to assess their perceived professional development, examining changes across multiple aspects of practice, including clinical care, evidence-based research, teamwork, patient communication, professional networking for care improvement, contribution to professional development, emotional support in patient care, and mentorship. Survey findings revealed that most participants were employed in public and private health institutions and dedicated their time to primary care focused on adults. Notably, more than half of the participants had not completed formal residency or structured postgraduate training programmes, and that their previous postgraduate education was limited to short courses. This context underscores the relevance of PLPs as a flexible and accessible strategy for professional development beyond formal residency structures.

Participants struggled to self-assess strengths and weaknesses in clinical knowledge, attitudes, and skills, clarifying how learning competencies underpin safe patient care delivery. This finding highlights the need for structured support (including mentorship) to facilitate self-assessment, as mentors significantly influence learning outcomes. Consistent with prior research, participants reported that learning embedded in daily practice through interactive and case-based formats, supported by peer groups and guided mentorship, helped facilitate reflection, knowledge integration, and overall professional confidence [10]. They also perceived improvements in technical care, clinical reasoning, evidence-based research, and collaborative networking, suggesting that PLPs enhance broader professional capacities essential for modern medical practice.

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Implications for Medical Education Policy

Despite growing evidence supporting learner-centered and practice-based educational approaches, PLPs remain underemphasised across formal CPD frameworks [1,3]. This marginalization reflects policy priorities that still favor quantifiable inputs (e.g., hours, credits) over meaningful learning outcomes and professional growth. Thus, current accreditation and regulatory models inadvertently discourage innovative, practice-embedded PLP approaches.

Medical associations, accreditation bodies, and regulatory authorities play a crucial role in addressing this learning gap. Recognising PLPs as a legitimate component of CPD would represent a shift towards more responsive, ethically grounded, and context-sensitive education systems [2]. Such recognition should be accompanied by investment in mentor training and evaluation models capable of capturing qualitative dimensions of learning, particularly those related to professional judgement and reflective practice. Furthermore, PLPs may contribute to greater equity in access to professional development by reducing barriers related to cost, time, and geography, particularly for physicians working outside academic centers or in resource-constrained settings [10]. This equity dimension is increasingly relevant in global health contexts characterised by uneven access to educational resources.

Conclusion: A Call to Action

PLPs represent a strategic response to strengthening contemporary medical practice and promoting an ethical commitment to lifelong learning [2]. Medical education systems that fail to integrate PLP approaches will risk perpetuating CPD models that are increasingly misaligned with clinical complexity and societal expectations. As next steps, policymakers, educators, and professional organisations should design medical education around reflective, adaptive, and socially responsible practice, rather than compliance-driven models.

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Using OECD Evidence to Inform and Shape Medical Practice

Frederico Guanais

More than one out of every ten jobs in the Organisation for Economic Co-Operation and Development (OECD) economies are in the health and social care sectors, and the health sector represents nearly 10% of their total economic output. As these statistics show how embedded healthcare is within the broader economy of countries, it is no surprise that the realities of day-to-day medical practice should be shaped by trends that go beyond individual clinical encounters. For example, population ageing, the growing burden of non-communicable diseases, the digitalisation of health, and changes in the models of ownership of healthcare facilities, can alter how physicians work, how patients experience care, and how health systems must adapt.

Within this rapidly shifting professional landscape, the presence of timely and comprehensive data about the structural forces that shape healthcare across countries is essential to ensure that policy reforms achieve the goals of supporting the medical profession, protecting the accessibility and integrity of patient care, and maintaining the long-term sustainability of health systems. In this context, the OECD (https://www.oecd.org/en/about.html) works in close collaboration with governments, researchers and experts, professional associations, and industry representatives to collect, analyse, and report a comprehensive set of indicators of population health and health system performance across its 38 member countries, accession countries, and key partners. These data are published in the annual *Health at a Glance* series, including OECD-wide and regional editions, and can be downloaded from the OECD website [1-4]. As with all international comparisons, while variation exists in how countries define and report healthcare roles and activities, the indicators provide robust insight into key structural trends.

The analysis of OECD data clearly indicates that although health systems have more physicians than ever before, healthcare demands and expectations have evolved over the past decades. Moreover, the nature of clinical practice is changing faster than workforce and training systems can fully adjust, and physicians are facing escalating administrative, technological, and organisational pressures. This paper provides a rapid overview of the latest available OECD evidence on the healthcare workforce as well as three forces that contribute to shaping the practice of medicine: patient-centredness of care, artificial intelligence (AI) and digitalisation, and healthcare financialisation.

A Growing, Yet Unevenly Distributed, Workforce

Over the past decade, the number of practicing doctors has increased substantially across OECD countries. While the average physician density rose from 3.3 to 3.9 per 1,000 population between 2013 and 2023, the distribution of this workforce remains highly uneven [1]. Major cities and capitals continue to attract the largest concentration of health professionals, while rural and remote regions struggle with persistent workforce shortages. This pattern appears in diverse settings, from Europe and North America to parts of Latin America and Oceania, reflecting deep structural drivers from within and outside the medical profession. These observations demonstrate existing discrepancies in training pathways, opportunities for specialisation, remuneration distribution, and the concentration of modern living amenities and high-quality public services around metropolitan regions.

An equally pressing concern is the decline in the share of primary care practitioners among all doctors. The different classification of generalists and specialists may influence comparisons across countries, but it does not affect comparisons over time. In 2023, around 20% of practitioners across the OECD countries were general practitioners, down from 23% in 2013 (Figure 1). Also, the share of general practitioners in 20 OECD countries has decreased since 2013, particularly in Romania (-6.5%), Denmark (-5.4%), and the United Kingdom (-5.0%) [5]. Furthermore, existing income disparities, where specialists across the OECD can earn on average 40% more than GPs, are less attractive to new entrants into general practice [1]. The ageing of the medical workforce may complicate things further, given that in half of the 38 OECD countries at least one in three physicians is now aged 55 or older [1]. The retirement of this cohort will be felt unevenly, with risks not only for workforce capacity,

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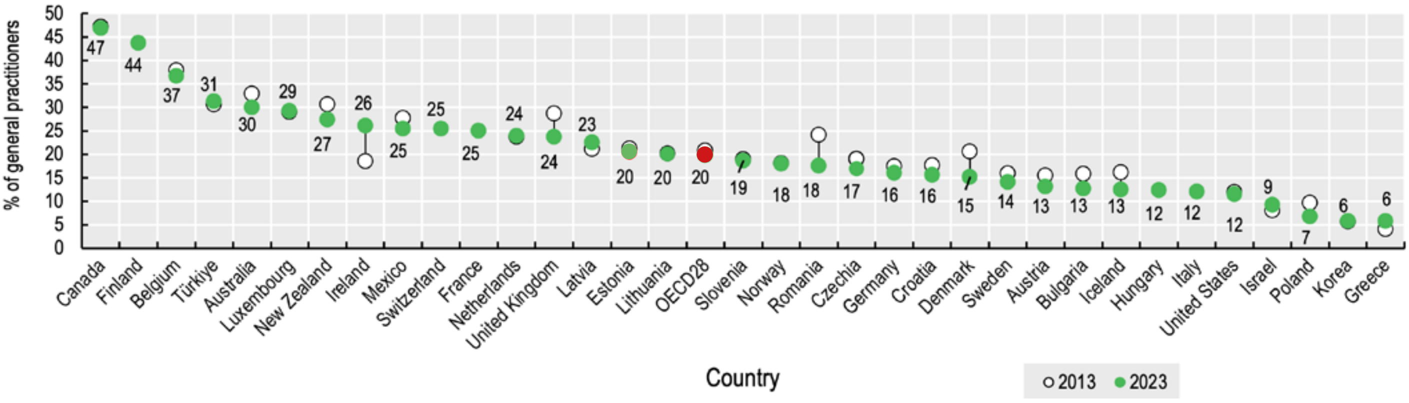

Figure 1. The percentage of general practitioners among all practicing doctors in OECD and accession countries, 2013 and 2023 (or nearest year) [1,5]. Note: The OECD average includes only the countries with available data for 2013 and 2023.

but also for the preservation of institutional knowledge and mentorship across generations of physicians.

Non-Communicable Diseases and the Centrality of the Patient Perspective

Over the past few decades, the share of the population aged 65 and over has increased on average across OECD countries from 12.8% in 2000 to 18.5% in 2023, and it is projected to increase further to 26.4% by 2050. In this context of population ageing, the two leading causes of death in OECD countries are diseases of the circulatory system and cancer, accounting for 28.5% and 22.0% of all reported deaths in 2023, respectively [1]. It is not surprising that managing chronic non-communicable conditions is what shapes the day-to-day responsibilities of primary care practice. The OECD's Patient-Reported Indicator Surveys (PaRIS) offer a unique window into the experiences and outcomes of care. In 2024, more than 107,000 adults aged 45 and older who had used primary care services at least once in the previous six months were interviewed in 19 countries. Data were also collected from the more than 1,800 primary care practices that these patients used. When combined with other OECD statistics, this dataset helps to identify the outcomes and experiences of care from patients' perspectives and assess the performance of primary care in managing patients living with chronic conditions.

The results show that 82% of respondents live with at least one chronic condition, 52% with two or more conditions, and 27% with three or more conditions [6]. Each additional condition increases the complexity of care considerably. Among people with multiple chronic conditions, over 70% take at least three medications daily, and more than one-third take four or more medications. Yet despite these demanding treatment regimens, only 24% of patients with chronic conditions say they have a written care plan, compared with 45% according to primary care practices.

Other survey findings with implications for practice are about the level of support that patients receive to manage their health and well-being. A total of 41% of patients say they do not feel confident managing their conditions, often citing insufficient support for self-management or limited continuity of care. The OECD's PaRIS shows that patients who receive sufficient self-management support are also more likely to feel confident that they can manage their own health and well-being by a difference of 14 percentage points (Figure 2). In practical terms, this highlights the importance of structured follow-up, clear care plans, and team-based support that physicians often report as lacking.

Despite these challenges, the connection between patients and their physicians remains a major strength, and trust in primary care professionals grows with continuity of care. About 76% of patients who have interacted with the same health professional for less than one year express trust in these encounters, compared with 84% of those who have interacted with the same health professional for more than 10 years. Shared decision-making and sustained continuity of care are therefore measurable determinants of better outcomes. The OECD's PaRIS underscores the value of listening directly to patients as part of health system governance and as input for policy decisions that ultimately affects the healthcare workforce. Without this information, policymaking risks becoming disconnected from the lived realities of those navigating chronic illness.

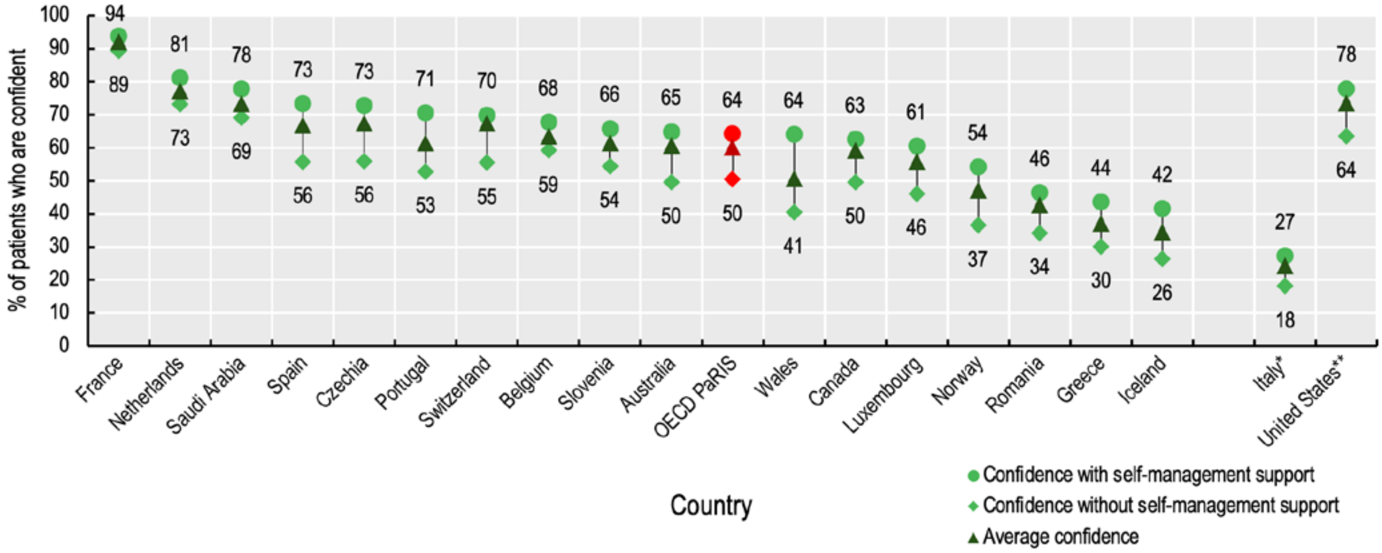

Figure 2. The percentage of patients who report confidence in the self-management of their health and availability of support tools, 2024 [6]. Note: Data for Italy refer to patients enrolled in outpatient settings for specialist visits in selected regions. Data for the United States only include people aged 65 years or older.

Potential Benefits, Risks, and New Professional Roles Related to AI in Health

Healthcare digitalisation and particularly AI is another main driver of transformation. Emerging OECD evidence shows that physicians generally expect AI to play a meaningful role in clinical practice within the next decade [4]. Importantly, clinicians do not fear replacement by machines. Instead, they anticipate that AI will assist with diagnosis, workflow optimisation, and administrative relief, potentially enabling them to spend more time with patients.

In one recent OECD study, in partnership with the World Medical Association (WMA), interviews with national medical associations in 17 countries and one international association indicate that AI is already being used in areas such as radiology, imaging analytics, and triage [7]. However, from the perspective of the medical associations, its effects on productivity and outcomes seem to remain limited, often confined to small-scale pilots. Physicians expressed concerns related to technical challenges, such as algorithmic bias and performance variability, and governance challenges, including liability, oversight, and data protection.

Responsible adoption, however, will require more than the development of novel technologies. New professional roles will increasingly be needed to ensure the safe, transparent, and clinically sound integration of digital tools in medical practice. These new roles can include AI safety officers, clinical AI stewards, algorithmic auditing specialists, healthcare prompt engineers, model governance advisors, and digital care coordinators. Several OECD countries have started to embed AI competencies in medical education, reflecting the shift toward a future where physicians must be able to interpret, challenge, and oversee algorithmic recommendations.

Financialisation of Outpatient Care

Many OECD countries are experiencing rapid changes in the ownership and financing of outpatient services. Private equity firms and large investor groups have expanded rapidly into capital-intensive fields such as diagnostics, radiology, ophthalmology, and dentistry [8]. The scale of these shifts is striking, and in many cases financialisation leads to the consolidation of the ownership of practices within regions or specialities. For example, investor ownership of diagnostic laboratories in France grew from 16% in 2010 to 78% in 2022, whereas dental service chains in several European countries doubled their market share within a few years [8].

This type of financialisation can bring needed capital for modernisation and efficiency, but it may also raise relevant concerns for physicians. In another recent OECD study, conducted in partnership with the WMA, the authors interviewed 23 experts from health ministries, competition authorities, legislative bodies, academics, representatives of the medical profession, and financial and legal firms [8]. Physicians mostly expressed concerns about professional autonomy, time pressure, and the possibility that financial imperatives may shape the organisation of care. There are also risks to accessibility and health outcomes, since consolidation may leave rural or

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low-income areas with fewer options, or steer services toward more profitable procedures over preventive or community-based care.

Despite its rapid expansion, nearly half of OECD countries report having no systematic assessment of the impact of financialisation on costs, care quality, or clinical independence. The absence of clear monitoring frameworks limits the ability of regulators to ensure that new ownership models support health system objectives. Given the limited availability of systematic monitoring, current evidence should be interpreted as emerging rather than definitive. This remains an urgent area for further research and policy cooperation.

Implications for Policy and Practice

Workforce pressures, chronic disease complexity, digital transformation, and new ownership structures are all drivers that interact in ways that profoundly affect the medical profession. Although these trends arise from different domains, together they shape physicians' daily work, from clinical decision-making to organisational arrangements and patient expectations. They call for policy responses that strengthen the professional role of physicians, particularly in primary care: ensuring sufficient time, staffing, and skills; enabling physicians to work effectively alongside multidisciplinary teams; and supporting clinical judgment with digital and AI tools that are designed to improve care while reducing administrative burden.

Moving forward, strengthening primary care must remain a priority for global health systems. Equitable remuneration, attractive career pathways, and supportive working conditions are essential to reverse the decline in general practice. Workforce planning should anticipate the retirement of large physician cohorts and support new models of care that encourage multidisciplinary teamwork.

Similarly, digital transformation should be guided by principles of transparency, evaluation, and professional stewardship. AI literacy will be crucial for all future clinicians, and governance frameworks should protect privacy, ensure algorithmic fairness, and maintain human oversight. Furthermore, countries must better understand the implications of financialisation. Ownership models influence everyday clinical practice; therefore, they deserve consistent monitoring and clear regulatory oversight to safeguard autonomy, protect patients, and uphold professional ethics.

Conclusion

The health workforce is evolving at a pace that challenges long-standing assumptions about how medical practice is organised. Yet across countries, one constant endures: physicians remain at the core of health systems, committed to delivering high-quality care under increasingly complex conditions. The OECD evidence provides a way to illuminate these pressures and inform reforms that protect professional integrity and patient well-being. Moreover, the partnership between the OECD and the WMA offers the possibility of timely and impactful in-depth studies that combine the associations' strengths in health research capacity.

As health systems confront the next decade of change, collaboration between medical associations, governments, and international organisations will be vital. Better data, combined with the insights of practicing clinicians, can help ensure that new technologies, new ownership structures, and new models of care strengthen the foundations of medical practice. Future collaborations can enable an in-depth and comprehensive examination of workforce resilience, governance models for AI, and the monitoring of ownership trends. These areas can facilitate international collaboration to help generate practical insights for both physicians and policymakers.

Disclaimer: The opinions expressed and arguments employed in this paper are those of the author and should not be reported as representing the official views of the OECD or of its member countries.

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World Medical Journal

Contextualising the Teaching of Bioethics in a Globalised World

Muhammad Shahid Shamim

How do we standardise ethics education for a profession that serves humanity, when humanity itself is no longer defined by borders, languages, or a single moral vocabulary?

Medical practice has become irreversibly global. Patients travel across borders in search of affordability, legality, or expertise. Physicians migrate to train, serve, and teach, bringing assumptions shaped by diverse moral worlds. Digital health technologies, artificial intelligence, and transnational data flows have created ethical dilemmas that are no longer confined to any single jurisdiction. In this context, ethics education cannot be static or nationally bounded; rather, it should be dynamic, dialogical, and deeply contextual. Drawing on diverse experiences as a clinician and educator in both Western and non-Western contexts, the author reflects on why contextualisation is an essential pedagogical and moral imperative in bioethics education.

The Changing Landscape

Historically, the teaching of medical ethics was largely anchored within national boundaries. Curricula were shaped by domestic legal frameworks, dominant socio-cultural and religious traditions, and professional codes developed for relatively homogeneous individualistic Western societies, which consistently reflect on healthcare delivery [1]. For example, Western ethical guidelines view the doctor–patient relationship as a partnership in which doctors provide necessary information, and patients are expected to decide either independently or with the physician, using a shared-decision-making model [2]. In both situations, patients' autonomy and privacy are at the forefront of the decision-making process. On the other hand, in several collectivist Asian countries, the relationship is primarily paternalistic, with patients granting doctors an authoritative role in clinical decision-making [1].

However, globalisation has fundamentally changed the moral terrain of healthcare. As cross-border care raises questions about standards, consent, and accountability, professional mobility challenges assumptions about shared ethical norms [3]. Furthermore, emerging technologies disrupt traditional understandings of privacy, responsibility, and trust [4]. In this changed landscape, ethics education cannot be reduced to the transmission of fixed principles; it must equip learners to reason ethically across cultures and systems.

The Globalisation of Bioethics

Bioethics emerged primarily as a formal discipline in Europe and North America, shaped by responses to human rights abuses and scientific innovation [5]. Its conceptual foundations emphasised individual autonomy, informed consent, and rights-based frameworks. As the bioethics discipline expanded to Asia, Africa, the Middle East, and Latin America, it encountered local moral traditions in which relationality, family, community, and social harmony play central roles.

This expansion raised important questions: *How should autonomy be understood in societies where decisions are made collectively? What does justice mean in contexts where healthcare access is itself unequal? Can ethical frameworks be developed within liberal democracies adequately address the moral realities of other social orders?* The globalisation of bioethics is recognised as an ongoing and necessary conversation among moral traditions (as opposed to the diffusion of ideas) and must be reflected in how bioethics is taught and practised globally.

Why Contextualisation Matters

In today's culturally integrated global context, contextualising bioethics education does not mean rejecting local or global principles, but rather anchoring them in lived realities. It requires attention to how moral responsibility is understood locally across contexts, how historical and political forces shape clinical relationships, and how students' moral imaginations, shaped by culture, religion, and social experience, play a role in the broader context of professional responsibilities.

A recurring classroom dilemma illustrates this point. When

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teaching autonomy in Pakistan, as observed in other Asian and African cultures, students frequently ask whether they should prioritise individual consent when a patient's family insists on collective decision-making. This question cannot be resolved by appealing to principlism alone [1]. It demands engagement with concepts such as relational autonomy, where agency is embedded within networks of family and community, transforming bioethics from an imported abstraction into a lived and inhabited practice.

Dimensions of Contextualisation

To resolve context-specific dilemmas of bioethics education, it is necessary to understand the four dimensions of contextualisation – cultural, socio-political, legal, and educational – that operate in an interlinked manner.

1. *Cultural contextualisation* involves engaging indigenous moral philosophies and religious traditions, such as Ubuntu in Africa, Confucian notions of harmony in East Asia, or Islamic medical ethics in Muslim societies [6,7]. Placing global principles in dialogue with local traditions enables students to compare moral reasoning approaches rather than adhere to a single moral orthodoxy.

2. *Socio-political contextualisation* recognises that ethical decision-making is influenced by structural conditions, including resource limitations, inequality, and geopolitical power disparities. In resource-constrained settings, principles such as justice and beneficence acquire heightened urgency. Teaching bioethics in these contexts requires students to see ethics not only as individual virtue, but also as social responsibility and advocacy.

3. *Legal contextualisation* addresses the intersection of ethics and law, examining how legal norms enable or constrain ethical decision-making in various contexts. Consent, confidentiality, and end-of-life care are often governed by different legal regimes across jurisdictions [8]. Students must learn to comprehend legal pluralism while remaining attentive to global instruments, such as international human rights frameworks. Comparative legal teaching can equip professionals to act responsibly in an increasingly mobile profession.

4. *Educational contextualisation* concerns pedagogy itself, focusing on relevance to the local context. Bioethics education grounded exclusively in Western primers may fail to resonate elsewhere [9]. Locally developed cases, narrative approaches, role-plays, and reflective writing allow students to engage with ethical dilemmas they recognise from their own environments. The bioethics classroom thus becomes a moral laboratory where values, principles, and contexts are examined in productive discourse.

In bioethics education, contextualisation operates as a dynamic, interconnected system rather than a set of isolated dimensions, where developments in one domain influence others. For example, ethical commitments to justice and non-maleficence may reveal the need for institutional reform across policy, resource allocation, and clinical governance. Similarly, engaging with cultural contexts can also reshape ethics curricula by bringing attention to local moral dilemmas, beliefs about illness, and everyday practices of care.

Effective contextualisation in medical ethics, therefore, demands a holistic and integrated approach that recognises these interdependencies and addresses them coherently. Such an approach ensures that ethical analysis is not only theoretically sound, but also responsive to the lived realities of patients, clinicians, and healthcare systems. The dimensions of contextualisation together form a conceptual and practical ecosystem in which ethical relevance to cultural context and clinical practice are mutually sustained with professional responsibility.

Encountered Challenges in Contextualization

Contextualisation in practice is not without challenges, as it requires balancing diverse cultural values, institutional constraints, and clinical uncertainties, while maintaining ethical consistency and professional integrity. First, while respect for cultural diversity is indispensable, it must not become an excuse for abandoning commitments to human dignity, justice, and non-maleficence. Second, many educators are trained within a single moral framework, often presented as a neutral or universally applicable approach to bioethics, and they may struggle to teach pluralistically. Third, the limited availability of contextually grounded research and teaching materials often leads to continued dependence on Western texts and perspectives. Building robust local scholarship requires sustained institutional investment in research capacity and scholarly networks. These challenges are not arguments against contextualization, as they provide reasons to pursue it deliberately, critically, and institutionally.

The Way Forward

Bioethics education aims to cultivate students' moral judgment beyond theoretical knowledge. In an era increasingly driven by geographical mobility and technological advancement, bioethics education must remain a humanising force within medicine. To achieve this goal, educators and institutions can take five concrete steps towards the contextualisation of bioethics education.

1. Developing locally relevant case repositories grounds bioethics in real practice.
2. Employing intercultural dialogue in classrooms recognises diversity as an ethical resource, not a liability.
3. Building global partnerships allows institutions to co-create curricula that integrate universal principles with local insight.
4. Incorporating decolonial and feminist perspectives draws attention to power, voice, and marginalisation within ethical discourse.
5. Cultivating reflexivity among students and teachers enhances humility, self-awareness and acceptability of diverse perspectives.

By contextualising bioethics with humility, we acknowledge that no single culture owns moral truth, and we honour the dignity of patients and practitioners within their moral worlds. By acting with justice, we ensure that ethical guidance remains relevant and fair across unequal realities. Together, these principles can prepare physicians who are clinically competent, morally grounded, culturally resonant, and globally conscious. Such physicians will recognise patients as unique individuals – wherever in the world they may practice – thus contextualising their moral and ethical agency.

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World Medical
Journal

Why Words Matter: Distinguishing Death Thoughts and Death Wishes in Clinical Ethics

Francesca Alt

Healthcare professionals across disciplines encounter patients who speak about death. Such expressions may emerge quietly, indirectly, or with startling clarity: *"Sometimes I think it would be easier not to wake up,"* or *"I don't want to live like this anymore."* These statements are ethically charged moments in clinical care. Long before any diagnosis is made or guideline applied, professionals must decide how to listen, how to interpret, and how to respond.

Across healthcare systems worldwide, death-related expressions are frequently subsumed under broad categories such as a "wish to die." While such categorisation may appear pragmatic, it risks overlooking ethically meaningful distinctions that clinicians already recognise in everyday practice. In particular, the differentiation between death-related thoughts and death-related wishes plays a decisive role in shaping perceived responsibility, urgency, and proportionality of response.

This commentary argues that distinguishing between death-related thoughts and death-related wishes is ethically significant in itself. It functions as an action-guiding orientation for healthcare professionals working under conditions of uncertainty and vulnerability. Although grounded in insights from paediatric palliative care, the ethical considerations discussed here extend to oncology, geriatrics, psychiatry, intensive care, and community medicine worldwide. To understand why this distinction matters, it is necessary to examine how death-related expressions appear in everyday clinical practice.

Death-related Expressions in Clinical Practice

References to death occur across the lifespan and across medical settings, reflecting fear, exhaustion, loss of autonomy, existential questioning, social isolation, or unrelieved symptom burden. Importantly, not every reference to death indicates a desire to die, nor does it necessarily signal suicidal intent. Clinicians commonly differentiate between patients who think about death and those who actively wish for death. Death-related thoughts often involve abstract reflections on mortality, passive ideas of non-existence, or symbolic language expressing weariness or fear. By contrast, death-related wishes are generally perceived as more directional and intentional, articulating a desire for life to end or for death to occur [1]. This distinction echoes findings from adult palliative care research, where wishes to hasten death are understood as multidimensional and context-dependent rather than uniform indicators of suicidality [2-4]. Yet much of the ethical and clinical literature has focused primarily on the category of a "wish to die," often treating it as conceptually self-evident. While less attention has been paid to the interpretive step that precedes such categorisation, it is precisely this interpretive step that carries ethical weight.

Interpretation as an Ethical Act

Interpreting a patient's words is never a neutral or purely technical process. When professionals listen to death-related expressions, they implicitly assign meaning, intent, and moral relevance, which ultimately shapes decisions about urgency, responsibility, and appropriate intervention. When an utterance is understood as a death-related thought, it is often met with attentiveness, exploratory dialogue, and relational presence. Healthcare professionals may invite elaboration, acknowledge existential suffering, and seek to understand contextual stressors. When an utterance is interpreted as a death-related wish, however, it frequently triggers safeguarding measures: psychiatric assessment, institutional escalation, involvement of ethics consultation, or legal considerations.

As the same words may be interpreted differently, they can lead to markedly different care pathways. Empirical findings from paediatric palliative care suggest that healthcare professionals already navigate this distinction intuitively, even in the absence of formal guidance, reporting considerable uncertainty and emotional burden [1]. Interpretation therefore operates as an implicit ethical mechanism – shaping action long before formal principles such as autonomy, beneficence,

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or non-maleficence are explicitly invoked. Recognising interpretation as an ethical act brings needed transparency to this process.

Ethical Risks of Collapsing Distinctions

Collapsing death-related thoughts and death-related wishes into a single category carries ethical risks. If existential or symbolic expressions are prematurely classified as wishes to die, there is a danger of over-medicalising distress and pathologising contextually meaningful communication. Particularly in paediatric or adolescent populations, metaphorical language may express frustration, dependency, or fear rather than a genuine desire for death. Rushed escalation may unintentionally silence patients, discourage further disclosure, or undermine trust. Conversely, failing to recognise an articulated death wish may result in missed opportunities for timely psychosocial or psychiatric support, and this underestimation of risk can lead to grave consequences.

Notably, healthcare professionals themselves report moral distress arising from uncertainty about whether their responses were proportionate or ethically justified [1]. Ethical practice therefore requires attentiveness not only to risk, but also to meaning. Differentiation does not minimise vulnerability or danger; rather, it enables responses that are sensitive to context, development, and relational dynamics, while remaining alert to situations that warrant urgent intervention.

Proportionality, Responsibility, and Care

The distinction between death-related thoughts and death-related wishes supports the ethical principle of proportionality. Proportionality requires that responses be commensurate with the interpreted meaning, intent, and context of a patient's expression. In paediatric care, the developmental stage, communicative capacity, and family dynamics can complicate interpretation [5-7]. Children may express distress through metaphor, fantasy, or indirect language, while adolescents may articulate more explicit death wishes. In geriatric care, expressions of "being tired of life" may reflect loneliness or functional decline. These expressions may reflect treatment fatigue in oncology or indicate major depressive disorder in psychiatric care. While the ethical challenge lies not in applying a uniform response, but in discerning meaning within context, such discernment requires clinical experience, reflective capacity, and institutional support that cannot be limited to algorithmic screening alone.

Implications for Professional Guidance and Education

If interpretive differentiation already shapes clinical action, it deserves explicit attention in professional education and policy development. The distinction between death-related thoughts and death-related wishes should move beyond implicit clinical intuition to become part of structured ethical reflection. Medical associations and training institutions worldwide have an opportunity to strengthen this awareness. Greater conceptual clarity in clinical documentation helps ensure that language captures interpretive nuance rather than collapsing distinct phenomena into a single category. Ethics education can incorporate structured reflection on how clinicians assign meaning to patient expressions and how this influences perceived urgency and responsibility. Interdisciplinary dialogue, including ethics consultation in complex cases, creates spaces where uncertainty can be acknowledged rather than concealed. Although such measures do not eliminate ambiguity or replace clinical judgement, they can promote transparency around why certain responses are considered proportionate and ethically justified. In an era increasingly shaped by protocols, screening instruments, and risk management frameworks, maintaining interpretive sensitivity remains essential to humane and context-responsive care.

Conclusion

When patients speak about death, healthcare professionals stand at a threshold of interpretation. The words themselves do not dictate action; meaning emerges through clinical judgement, relational engagement, and ethical reflection. Distinguishing between death-related thoughts and death-related wishes is not merely semantic: it shapes responsibility, urgency, and proportionality of response. It influences whether healthcare professionals respond primarily with dialogue, protection, or institutional escalation. Across diverse health systems and cultural contexts, the ethical task remains the same: to listen carefully, to interpret responsibly, and to respond proportionately. Words matter – not only for what they reveal about suffering, but for how they guide compassionate care.

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World Medical Journal

Euthanasia Combined with Organ Donation in the Era of Artificial Intelligence

Jadranka Buturović Ponikvar

Organ donation after euthanasia was first implemented Belgium in 2005, three years after the legalisation of euthanasia, and later reported in the Netherlands (2012), Canada (2016), and Spain (2021) [1]. More recently, the practice has been introduced in Australia and New Zealand. It was estimated that up to 10% of patients could be eligible for donating at least one organ [2]. Eligible donors are predominantly patients euthanised for neurological or psychiatric conditions, as those with malignancies or advanced age are generally excluded.

Under the Maastricht classification, donors after euthanasia are categorised as donations after circulatory death (DCD) type V (five) [3]. In jurisdictions where DCD is permitted, no specific legal barrier exists to the implementation of organ donation following the legalisation of euthanasia. The definition of euthanasia, or assisted dying more broadly, remains challenged [4]. In this paper, euthanasia is defined as *"the act of the active, intentional termination of a patient's life by a doctor who thinks that death is a benefit to that patient"* [5], typically by lethal injection.

Euthanasia (in some form) is currently permitted in at least 10 countries: Australia, Belgium, Canada (e.g., Medical Assistance in Dying, MAiD), Colombia, Ecuador, Luxembourg, The Netherlands, New Zealand, Portugal, and Spain [6]. The increasing geographic spread of euthanasia legislation has brought renewed attention to its clinical, legal, and ethical consequences. The paper aims to outline the current status and practice and address the principal ethical challenges associated with organ donation after euthanasia.

Present Status of Organ Donation after Euthanasia

Between 2005 and 2021, organ donation after euthanasia resulted in 286 and 837 recipients, respectfully, in four countries (Belgium, The Netherlands, Canada and Spain) [1]. In 2024 alone, 170 donors were reported [7]. Although absolute numbers remain modest, the number of donors after euthanasia is increasing, in parallel with the rising incidence of euthanasia. The cumulative number of reported euthanasia cases up to 2023 in The Netherlands, Belgium, and Canada is estimated at approximately 200.000 cases, with around 28,000 cases reported in 2023 alone.

Overall transplant outcomes from euthanised donors are comparable to those from donors after brain death or conventional circulatory death [8,9]. However, worse than expected long-term outcomes have been reported for kidney and liver transplantation, possibly related to the toxicity of high doses of euthanasia drugs. The clinical significance of these observations, however, remains to be fully elucidated.

Procedure of Organ Donation after Euthanasia

Organ donation after euthanasia differs from donation after brain or conventional circulatory death in several key respects. First, the timing of death is planned in advance, allowing organ procurement and transplantation to be organised as elective procedures. Death is induced by lethal injection ensuring a brief agonal phase. Pre-donation assessment, including recipient matching and organ allocation, is completed before hospital admission for euthanasia. Second, donors, including individuals euthanised for psychiatric conditions, do not have a terminal disease. Third, explicit first-person consent is obtained for organ donation and related procedures.

Donor Selection and Pre-Transplant Work-Up

Donors are typically selected from euthanasia candidates whose natural death is not reasonably foreseeable. Specifically, in Canada, these individuals are classified as Track 2 patients, whereas Track 1 patients have a terminal illness and usually proceed directly to euthanasia [10]. When patients meet medical eligibility criteria for euthanasia and initiate a discussion on donation, they are referred to organ donation organisations for preliminary assessment. If eligible, an organ donation coordinator approaches the patient, explains the donation procedure to patients and obtains their informed consent

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for organ donation, death in the hospital setting, and completion of pre-donation evaluations (e.g., laboratory testing, imaging and tissue typing, interventions to optimise organ quality). Hospital admission occur on the day of euthanasia or earlier, depending on the organs to be donated.

The Day of Euthanasia and Organ Procurement

The final stage of the organ donation after the euthanasia process is a tightly coordinated two-phase event [11,12]. In the first phase, the patient's life is intentionally ended under controlled medical conditions. The donor is admitted to a hospital room adjacent to the operating theatre where a physician – either the treating physician or a physician from a euthanasia expertise centre – administers a lethal injection, starting with an anaesthetic, followed by neuromuscular blocking agent and potassium chloride, inducing rapid cardioplegia and minimising the agonal phase. Following cardiac arrest and a five-minute "no-touch" period, death is formally declared based on circulatory criteria.

In the second phase, the donor is promptly transferred to the operating theatre, where the organ procurement team initiates surgery. The recovered organs are then tranferred to pre-mobilised recipients, followed by transplantations. Throughout the procedure, the physician performing the euthanasia and the organ procurement team work in close temporal and physical proximity to minimise warm ischemia and preserve organ viability.

Artificial Intelligence, Euthanasia, and Transplantation

The integration of artificial intelligence (AI) into end-of-life care represents a significant, albeit ethically complex development. Proposals suggest that AI could support multiple stages of the euthanasia process, including the evaluation of initial requests, procedural assistance, and retrospective case review, potentially reducing the workload on review committees. Legal scholars from The Netherlands have argued that such AI applications are not prohibited under current European Union AI legislation [13]. In fact, large language models trained on Dutch euthanasia cases are being explored as a partners in shared decision-making [14].

AI plays a well-established role in transplantation medicine by analysing large datasets to improve organ matching and predict transplant outcome. Importantly, AI has the potential to merge data from distinct sources (e.g., transplanted and wait-listed patients, euthanasia candidates serving as donors), which could allow AI to identify a "perfect match" by simultaneously optimising for biological compatibility, logistical feasibility, and predicted transplant success. Furthermore, as AI systems may anticipate individual preferences – attitudes towards organ donation – this dual role of AI in facilitating euthanasia and refining organ allocation creates a powerful synergy that may further expand organ donation after euthanasia.

Ethical Considerations of Organ Donation after Euthanasia

Arguments of Proponents. Advocates argue that organ donation after euthanasia respects a patient's final, concurrent wishes: to end suffering and donate organs, creating a "win-win" scenario in which individual autonomy is respected while life-saving benefits are provided to recipients and society. It is further suggested that organ donation may confer meaning to death and a chance for second life. From a utilitarian perspective, however, proponents emphasise severity of organ scarcity, arguing that every opportunity for donation should be utilised, as a potential solution to the organ scarcity [15,16]. This reasoning is extended to pediatric populations, with the claim that if children are legally permitted to access both euthanasia and organ donation, prohibiting their combination is unjustified, especially given pediatric organs scarcity [17].

More radical proposals challenge the traditional "dead donor rule" suggesting that highly autonomous candidates should be allowed to donate vital organs under deep anesthesia (*ante mortem*) and maximize organ quality. In this model, euthanasia would be completed through heart procurement, based on the premise that donors seeking euthanasia and organ donation prefer to maximize the number of organs donated in optimal condition, including the heart, which is highly sensitive to ischaemia [18-20]. Support from this position may be drawn from evidence that transplantation outcomes from living kidney donors are superior to those from deceased donors. Underlying all these arguments is the assumption that euthanasia and organ donation can be fully separated, both procedurally and in decision-making, thereby preserving the ethical integrity of each practice.

Consent. Although the wish to donate organs may be genuine in some euthanasia candidates, a central ethical concern is whether informed consent for organ donation can be truly separated from the decision to undergo euthanasia. Closely related is the question of whether the right to withdraw the consent remains practically and psychologically viable once the two processes become linked. For vulnerable people, including young people with suicial ideation, the option to donate organs in conjunction with euthanasia may be perceived as an implicit message that they are more valuable dead then alive, therefy intensifying situational pressures already present in the euthanasia process. Moreover, committing to organ donation may function as a psychological commitment device, providing an additional, socially valorised justification for ending one's life and creating an "unbreakable connection" between the two decisions [21].

Although the right to withdraw the consent at any time is foundational to valid consent, its practical exercise may be compromised, especially once transplant teams and recipients are mobilised. Patients may feel bound by their promise, fearing moral judgement or a deterioration in the quality of their remaining care. This pressure may be reinforced by the desire – particularly at the end-of-life – to be remembered as brave, generous and altruistic, rather than hesitant and self-interested [21]. Together, these dynamics raise serious concerns about the voluntariness, stability, and authenticity of consent in the context of organ donation after euthanasia.

Special Case of Donors Euthanized for Psychiatric Disorders

A growing subset of organ donors after euthanasia involves patients euthanised primarily for psychiatric disorders, including some patients in their twenties. From a clinical perspective, these donors are often considered preferable, as they are typically younger and medically healthier than donors euthanised for somatic conditions, resulting in higher number of organs procured per donor (4.5 vs. 2.8) [22,23]. At the European Society for Organ Transplantation (ESOT) Congress, which was held in London in July 2025, data from The Netherlands revealed that donors euthanised for psychiatric reasons accounted for more than half of all post-euthanasia donors over a 12-year period (2012-2024). Psychiatrists have warned that decision-making capacity and susceptibility to external influences are crucial concerns in organ donors euthanised on psychiatric grounds [24]. Notably, women are disproportionately represented among patients euthanised for mental suffering, in contrast to gender distribution observed in general suicide statistics [25].

Public Trust Challenges

Transplantation medicine already faces significant ethical challenges, including organ trafficking and transplant tourism. A recent *New York Times* report from the United States described cases in which organ procurement organisation professionals pressured hospital physicians to hasten death in the context of DCD donations [26]. These events prompted U.S. Congressional oversight of the Organ Procurement and Transplantation Network [27]. In response, the American College of Physicians published the *Ethical Issues in Organ Transplantation: A Position Paper*, reaffirming physicians' primary obligation to their patients – particularly organ donors – in the context of DCD [28].

The use of extreme medical interventions – such as a kidney transplantation in a 90-year-old patient, and the deliberate ending of young patients' lives with subsequent organ procurement – may generate professional and public confusion. These contrasts risk fueling the perception that medicine is losing its moral and professional compass, underscoring the need for careful ethical framing to preserve trust, sustain medical innovation, and promote progress.

Final Thoughts

Organ transplantation represents one of the greatest achievements of 20th century medicine, prolonging and improving lives, restoring hope, and even enabling severely ill women to experience motherhood. Yet organ supplies continue to meet only 5-10% of the global demand, despite sustained growth in transplant activity during this century [29]. Paradoxically, expanding transplantation may itself increase demand due to the limited lifespan of transplanted organs, declining organ quality, the need for re-transplanations or multi-organ transplantations in single recipients, and the continuous expansion of transplant indications. These pressures and performance metrics risk pushing organ donation programmes to the edge of ethical acceptability and public trust.

This compels a fundamental question: *Where is the red line that must not be crossed?* The practice

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of physicians intentionally ending young patients' lives and providing their organs to others forces this question into sharp focus. As Margaret Somerville has argued, bioethics must examine not only principles, but also moral intuition and emotional response to avoid a "malignant normalization" of practices that gradually erode core ethical foundations [30]. The intersection of euthanasia and organ donation demands reflection on the world being shaped for future generations – and increasingly unstable and unpredictable world, in which safeguards designed for stable times may prove insufficient. There is, therefore, a duty to foster broad professional and public dialogue, grounded in transparent facts and precise language, and free from euphemism, about the current reality and future developments of euthanasia combined with organ donation (including worst-case scenarios). Ultimately, the increasing use of euthanasia, organ donation, and their combination means that physicians – not merely ethicists or society at large – may bear moral responsibility for decades and perhaps centuries to come.

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World Medical Journal

WMA Members Commemorate World Tuberculosis Day

Credit: Soloviova Liudmyla / shutterstock.com

"For millennia, our ancestors have suffered and died with tuberculosis, without knowing what it was, what caused it, or how to stop it. Today, we have knowledge and tools they could only have dreamed of. The political declaration countries approved today, and the targets they have set, are a commitment to use those tools, and develop new ones, to write the final chapter in the story of TB." – Dr. Tedros Adhanom Ghebreyesus, WHO Director-General [1]

Tuberculosis (TB), transmitted through aerosolised droplets infected with *Mycobacterium tuberculosis,* is the leading cause of infectious mortality worldwide. According to the *World Tuberculosis Report 2025*, an estimated 10.7 million TB cases and 1.23 million TB deaths (including 150,000 people living with the human immunodeficiency virus, HIV) were reported in 2024, declining slightly from 10.8 million cases (2% reduction) and 1.27 million deaths (3% reduction) in 2023 [2]. Approximately one quarter of the global population is living with latent TB infection (LTBI), with a 5-10% lifetime risk of developing TB disease. Notably, eight countries account for almost 70% of the global TB burden: India (25%), Indonesia (10%), the Philippines (6.8%), China (6.5%), Pakistan (6.3%), Nigeria (4.8%), Democratic Republic of the Congo (3.9%), and Bangladesh (3.6%) [2]. TB prevention and control require a multi-pronged approach that incorporates the administration of the Bacille Calmette-Guérin (BCG) vaccine, identification of LTBI using the tuberculin skin test (TST) or interferon-γ (IGRA), and provision of TB preventive treatment to reduce risk of disease progression [3].

Since 2015, global TB cases and deaths have decreased by 12% and 29%, respectively, yet the African and European regions have achieved 28% and 39% reductions in incidence and 46% and 49% reductions in mortality, respectively [2]. In 2024, a total of 390,000 people were diagnosed with multidrug-resistant (MDR) or rifampicin-resistant (RR) TB, similar to statistics reported in 2023. Despite high treatment success rates (88% for drug-susceptible TB and 71% for drug-resistant TB), only 42% of affected individuals (two in five individuals) received treatment [2]. Further global challenges include ongoing recovery from the coronavirus disease 2019 (COVID-19) related disruptions, management of persons living with chronic disease (e.g., diabetes, HIV) and TB co-infection, socio-economic and structural barriers to accessing healthcare services, and limited funding and

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infrastructure to support national health priorities.

Over the past three decades, the World Health Organization (WHO) has promoted three landmark strategies – Directly Observed Treatment, Short course (DOTS) Strategy (1994-2005), Stop TB Strategy (2006-2015), and End TB Strategy (2016-2035 [4]. First, the DOTS Strategy, launched after the WHO declaration of TB as a global emergency in 1993, was focused on ensuring that TB patients completed treatment for disease curation and reduced spread of drug-resistance in the community [5]. Second, the Stop TB Strategy, published in 2006, built upon the DOTS Strategy and intended to enhance coordination and collaborative efforts with global partners to achieve the targets of the Millennium Development Goals [6]. Third, the End TB Strategy, launched in 2015, aims to reduce TB incidence (90% by 2035) and deaths (95% by 2035) as well as eliminate catastrophic costs affecting families, when compared to 2015 rates [7]. It establishes a robust framework to ensure equitable access to high-quality TB health services through three pillars: 1) integrated, patient-centred TB care and prevention (Pillar 1); 2) bold policies and supportive systems (Pillar 2); and intensified research and innovation (Pillar 3) [7].

Furthermore, two World Health Assembly (WHA) and one World Medical Association (WMA) resolutions have been adopted and incorporated into global health systems. First, the *WHA Resolution 73.3 (Global strategy for tuberculosis research and innovation)* was adopted in 2020, outlining four strategic objectives – 1) create an enabling environment for high-quality TB research and innovation; 2) increase financial investments in TB research and innovation; 3) improve approaches to data sharing; and 4) promote equitable access to the benefits of research and innovation [8]. Second, the *WHA Resolution 78.5 (Promoting and prioritizing an integrated lung health approach)* was approved in 2025, confirming lung health (communicable and non-communicable diseases) as a public health priority and promoting a coordinated, multi-disease approach to reduce the global burden of respiratory diseases [9]. Finally, the *WMA Resolution on Tuberculosis*, adopted in 2006 and reaffirmed in 2022, seeks to strengthen the global TB response by highlighting the role of physicians and health systems and the need for sustained political commitment and integrated, patient-centred approaches [10].

World TB Day is observed annually on 24 March, linked to Dr. Robert Koch's scientific discovery of *M. tuberculosis* for TB in 1882 (https://www.who.int/campaigns/world-tb-day/2026). The "Yes! We can end TB!" theme aligns with global TB efforts – especially the 2018 and 2023 High-Level Meetings on the Fight Against TB – reaffirming global commitments to the established targets and indicators of the United Nations (UN) Sustainable Development Goals (SDGs) and the WHO End TB Strategy. While SDG 3.3 (By 2030, end the epidemics of AIDS, TB, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases) explicitly addresses TB efforts, other SDGs – like SDG1 (no poverty), SDG4 (quality education), SDG8 (decent work and economic growth), SDG10 (reduced inequalities), and SDG17 (partnerships for the goals) – stress the need for coordinated global action, sustained political commitment, stronger health systems, and investment in innovative research.

In this article, physicians from 25 countries – Algeria, Argentina, Bangladesh, Canada, Colombia, Cuba, Dominican Republic, Haiti, Hong Kong, Iceland, India, Italy, Ivory Coast, Latvia, Malaysia, Myanmar, Pakistan, Panama, Philippines, Portugal, South Africa, Spain, Taiwan, Thailand, Trinidad and Tobago – described statistics of the national TB burden, existing challenges to support TB control, and national policies that advocate for sustainable investment and coordinated multisectoral action to strengthen TB control. They highlighted innovative community-based initiatives designed to engage audiences and reduce TB-related stigma and discrimination.

Algeria

Algeria is a country of 46 million people spanning Mediterranean coastlines (north), the Atlas Mountains (north and north-west), and the vast Saharan desert (south). World TB Day offers Algerian physicians a moment to reflect on significant achievements and remaining efforts to combat TB. Over the past four decades, TB incidence (per 100,000 population) has fallen from 70 cases in 1982 to 42 cases in 2022 – a trajectory that reflects sustained political commitment and generations of health professionals working to reach every citizen [11,12]. However, with 47 cases per 100,000 population reported in 2023, Algeria's epidemiological profile is shifting in ways that demand renewed attention

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[11,12]. Extrapulmonary TB now accounts for 29.1 cases per 100,000 population, which disproportionately affects women and children, surpassing pulmonary TB with 10.5 cases per 100,000 population [11,13]. A retrospective analysis of 729 patients treated in Oran between 2019 and 2024 reported that 50% of TB cases were extrapulmonary, with diagnosis by microscopy (52%), radiology (45%), and culture (3%) [14]. These statistics highlight the diagnostic and systemic gap: GeneXpert MTB/RIF Ultra technology, capable of confirming extrapulmonary TB and detecting rifampicin resistance from non-sputum samples, is not yet equitably distributed across Algeria's 69 provinces (wilayas), and periodic drug shortages at the Central Hospital Pharmacy continue to interrupt treatment courses, especially in rural and southern wilayas [11,13].

Algeria's response to the TB burden has been shaped by a series of landmark national initiatives that offer a model of sustained, state-led commitment. The National TB Control Program, established following the national independence in 1962, guarantees free TB diagnosis and treatment for all citizens, mandates universal BCG vaccination for newborns (achieving 98% coverage), and decentralises care through a primary healthcare centre network (établissement public de santé de proximité, EPSP) and community-level polyclinics [2,12]. Notably, Algeria launched the *National Strategic Plan for Revitalizing TB Control (2001–2005)* in 2001, in partnership with the WHO Africa Region, which introduced fixed-dose combination drugs, established regional TB coordination groups, and restructured health facilities to strengthen accountability at every tier of care [12]. Subsequently, primary drug resistance was reported at 5.9% in 2002 (down from 8.6% in 1988), and this evidence set the template for Algeria's current alignment with the WHO End TB Strategy [12]. Complementing these structural initiatives, the National Institute of Public Health (Institut National de Santé Publique, INSP) sustains a rigorous monthly surveillance system (Relevé Épidémiologique Mensuel, REM), enabling real-time monitoring of TB trends and regional patterns at local and national levels [13].

As physicians in Algeria, our call to action is grounded in our country's unique realities: its geography, Arabic- and Tamazight-speaking communities, and a long-standing TB control infrastructure that has shown it can modernise and adapt, provided it receives strong policy direction and sufficient resources. At the national level, physicians must advocate for the decentralization of GeneXpert MTB/RIF Ultra technology across all provinces, reducing access barriers to communities in rural and southern regions. Supporting a digital inventory system and incorporating updated protocols at the Central Hospital Pharmacy can help eliminate recurrent drug shortages and support antimicrobial stewardship. At the community level, physicians can organise TB awareness campaigns in Arabic and Tamazight languages, tailored to the distinct cultural contexts of northern cities, Kabyle highland communities, and Saharan populations, and ultimately reduce stigma and encourage early care-seeking behaviours [11,13]. For over 60 years, Algeria has demonstrated that political will and universal access can transform the TB landscape of a diverse, geographically vast country. As physicians serve as powerful advocates for political investment, policy development, and national dialogue on TB elimination, our generation's task is to extend that legacy to implement best practices and reach all populations for national and global TB prevention and control efforts.

Argentina

World TB Day represents an opportunity for the medical community to reaffirm our professional commitment to TB prevention, early diagnosis, and effective treatment. In Argentina, national epidemiological reports estimated more than 16,000 TB cases in 2024, with an incidence rate of 35 cases per 100,000 population – a 8.3% increase in the incidence rate and a 9.2% increase in TB cases compared with 2023 rates [15]. Mortality also remains significant, with more than 1,000 annual deaths, corresponding to 2.2 deaths per 100,000 population [15]. Notably, the northern provinces have the highest TB burden, with an estimated incidence rate (per 100,000 population) of 65.3 cases in Jujuy and 59.6 cases in Salta in 2024 [16]. Specifically, in Salta, 905 new cases and 110 deaths were reported in 2023, rising to 967 new cases in 2024 and 884 new cases in 2025 [16]. As community transmission persists, predominantly affecting children and adolescents (8% of TB cases), health systems must prioritise contact tracing and early diagnosis and analyse the influence of the social determinants of health such as poverty, overcrowding, malnutrition, and barriers to timely access to health services.

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Argentina has developed various initiatives to strengthen the national TB response through legislation, health system policies, and community action. First, *Law 27,675 (Ley 27,675)* (2022) established a comprehensive response to HIV, viral hepatitis, sexually transmitted infections, and TB, guaranteeing access to prevention, diagnosis, treatment, and social protection from a human rights-based approach [17]. The National TB and Leprosy Control Program, created by *Ministerial Resolution 583/2014 (Resolución Ministerial 583/2014)*, coordinates epidemiological surveillance strategies, access to diagnosis, free treatment, and patient follow-up throughout the country [18]. Second, the Dr. Emilio Coni Respiratory Institute serves as a national reference centre, developing technical guidelines and training healthcare professionals in TB epidemiology, microbiological and molecular diagnosis, epidemiological surveillance, and control strategies. These actions are complemented by annual awareness and health education campaigns, coordinated by the Ministry of Health and provincial authorities in observance of World TB Day.

In the northern province of Salta, the Ministry of Public Health's Provincial TB Program implemented actions focused on prevention, timely diagnosis, and strengthening the healthcare network in 2025. Key activities included educational campaigns, distribution of preventative materials, ongoing training for healthcare teams (e.g., training in application and interpretation of purified protein derivative test), and coordination with primary healthcare for the active search for individuals with respiratory symptoms. Also, the Provincial TB Program conducted TB audits to strengthen infection control practices, oversaw the provision and control of medications according to national guidelines, managed supplies to support the laboratory network, and monitored records in official TB notification systems.

Using the "Yes! We can end TB" theme, World TB Day highlights the need to focus on strengthening primary care networks, improving access to early diagnosis, addressing the social determinants of health, and promoting sustained political commitment. In Argentina, primary care teams play a central role in TB control, where community health professionals contribute to active case finding, identification of individuals with respiratory symptoms, contact tracing, treatment monitoring, and health education across provinces, especially in high TB burden areas. Furthermore, expanding equitable access to rapid molecular techniques, such as nucleic acid amplification tests capable of detecting *M. tuberculosis* and drug resistance, can help reduce diagnostic delays, allow for early initiation of appropriate treatments, and improve clinical outcomes. Achieving the goals of the WHO End TB Strategy will require investment in research and innovation, equitable access to health services, and active community participation worldwide.

Bangladesh

World TB Day highlights the bridge between clinical resilience and the national goal of a TB-free Bangladesh, a country facing an incidence rate of 221 per 100,000 population with an estimated 384,000 new cases reported in 2024 [19]. Despite achieving a 96% treatment success rate, systemic diagnostic gaps persist in paediatric cases and the unregulated private sector, where 80% of urban residents first seek care. The Bangladesh National TB Control Program remains 90% dependent on international donors, creating a fragile budget that lacks domestic sustainability. This economic instability forces 39% of affected households into catastrophic poverty, proving that TB remains a significant medical and financial crisis within the high-density urban landscape [2,20]

While the National TB Control Programme has been highly successful, specific challenges remain unique to our high-density, rapidly urbanising context [19]. First, since diagnosing children remains difficult due to challenges in obtaining sputum samples, scaling stool-based testing and paediatric-specific diagnostics to rural areas can address this gap. Second, high population density and poor ventilation in cities (like Dhaka and Chattogram) make contact tracing a massive logistical hurdle. Third, since many patients seek care with unregulated "village doctors" or pharmacies, strengthening the public-private mix is essential to prevent these patients from being lost to follow-up [21]. Finally, managing MDR-TB requires intensive nutritional and social support to ensure treatment completion. While our achievements, including a 35% decline in mortality, are commendable, we must close these gaps to move from TB control to elimination by 2030 [22].

To strengthen TB control efforts, the Bangladesh Ministry of Health has shifted from basic DOTS to a sophisticated, multisectoral approach. First, the updated *National Strategic Plan 2024-2030*

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was launched in 2024, integrating TB services into primary healthcare, bringing specialised care to grassroots community clinics [2,20]. Second, in partnership with local non-governmental organisations, the community engagement model promotes community health teams to provide DOTS at patients' doorsteps. Third, health leaders have scaled GeneXpert and molecular testing to 60% coverage by 2025, supported by widespread social communication campaigns to reduce stigma [2]. Fourth, the "Bangladesh TB People" network promotes a people-centred model and empowers TB survivors to serve as "community champions" who advocate for patient rights. Notably, TB Screening and Treatment Centres (TBSTCs) were established to provide care to the 80% of urban residents who seek treatment in the private sector [21]. Finally, more than 10,000 health professionals were trained to implement a bidirectional screening model that maximises clinical encounters to enable early diagnosis of comorbidities (such as diabetes), aiming to close the 18% gap in undiagnosed cases.

As physicians in Bangladesh and worldwide, our role is to bridge clinical excellence and public health advocacy to reduce the global TB burden. By aligning the *National Strategic Plan 2024-2030* with global commitments, we are shifting from passive case finding to active, community-led interception [22]. We must lead by integrating TB screening into every clinical encounter and prioritising the scale-up of TB preventive therapy to protect high-risk groups and household contacts from active disease. Beyond clinical practice, physicians must advocate for expanded national health financing to close the current funding gap and reduce the program's reliance on international donors (providing 90% of TB funding). By committing to the continuous professional development of the next generation of health professionals, health systems can ensure political and financial investment and long-term clinical resilience.

Canada

World TB Day in Canada is a reminder that "low-incidence" can still mean "high inequity." While the majority of Canadians perceive TB as a distant disease long eliminated from the country, high and increasing rates can still be seen in communities facing health inequities. Nationally, Canada reported 2,508 new TB cases (6.1 per 100,000 population) in 2024 [23]. Yet, the overall rate (per 100,000 population) hides profound inequities: 0.3 among Canadian-born, non-Indigenous people, 186.9 among Inuit people, 17.4 among people born outside Canada, and 13.5 among First Nations. Finally, some indigenous communities in Nunavik see multi-year active outbreaks with rates in the few thousands per 100,000 population [24]. The greatest disease burden in Canada is among people born outside Canada, followed by Inuit and First Nations, reflecting the impact of structural and social determinants of health (e.g., overcrowding, homelessness, food insecurity) and systemic barriers to culturally safe health services.

Canada has a number of concrete initiatives that provide actionable lessons for scaling. First, Inuit Nunangat leaders, Inuit Tapiriit Kanatami, and the federal government set an explicit goal to eliminate TB across Inuit Nunangat by 2030, paired with regionally tailored action plans that emphasise self-determination, community ownership, and upstream determinants (notably housing and food security). This initiative is now expanding with ongoing work to develop a national TB elimination strategy by a TB Task Group, which is led by the Public Health Agency of Canada (PHAC) along with federal, provincial, territorial, and Indigenous partners [25]. The strategy will be informed by the unique needs of vulnerable populations affected by TB and has involved extensive consultations with affected communities. Second, Canada maintains a strong clinical-public health expertise through the Canadian TB Standards, as a national workforce training and quality improvement approach to TB prevention and care across key populations [26]. Third, engaging communities which face a disproportionate TB burden is essential to managing TB epidemics. Indeed, community workers and members are directly involved in TB prevention and care for Inuit people in Canada, as well as in the co-development of culturally safe public health approaches, and community leaders are integrated into the deployment of large-scale public health interventions across affected Inuit communities. Specific models such as the Taima TB campaign in Iqaluit have demonstrated how culturally grounded communications, community mobilization, accessible screening, rapid in-community testing, and timely linkage to care can stop TB in high-incidence settings.

Our call to action for Canadian physicians is to combine excellent person-centred TB clinical care with sustained, equity-centred advocacy to address structural and social determinants of

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health, build community health professional and paraprofessional workforce capacity, enable community-led rapid testing, and reduce diagnostic delay. They can also expand culturally safe services and strengthen screening and TB preventive therapy in disproportionately affected populations. In order to achieve those objectives, working with the affected communities to co-design stigma reduction interventions is crucial, and we echo the Chief Public Health Officer's call that TB elimination must be community-driven [27]. We should also amplify voices of TB survivors by supporting groups like TB People Canada (https://www.stoptbcanada.com/tbpeoplecanada) and patient organisations from highly affected communities. Additionally, we call on public institutions to leverage opportunities to enhance more timely and equitable access to innovative TB diagnostics and therapies. Finally, Canada must continue to lead on TB beyond its borders through its commitments to The Global Fund to Fight AIDS, Tuberculosis, and Malaria by matching investments to needs in order to avoid higher downstream costs and investing in TB research and innovation. Since global TB control and domestic elimination are inseparable, even amid economic constraints, these global investments play an important role in protecting domestic health security, reducing the risk of health crises in key trade partners, supporting global supply-chain stability, and catalysing opportunities for domestic and global innovation.

Colombia

World TB Day calls on Colombian physicians to transition from TB control to elimination as well as address the profound social and economic inequalities driving TB spread in the nation. The Colombia Ministry of Health reported an estimated 20,832 TB cases in 2024 – a 4.5% increase from 2023 and a 13.9% increase from 2022 to 2023 – diagnosed in 74% of municipalities (concentrated in Amazonas, Barranquilla, Cali, Risaralda, and Caquetá) [28]. With approximately 57 cases and four deaths occurring each day, critical gaps persist in vulnerable populations, especially among incarcerated individuals [28].

Faced with an increasing TB burden, the Colombia Ministry of Health and Social Protection has implemented multiple approaches to accelerate TB elimination across the municipalities. First, the *Resolution 227 (Resolución 227)*, approved in 2020, established the operational and technical guidelines of the National Programme for TB Prevention and Control [29]. Second, the *National Plan to Accelerate Progress toward Eliminating Tuberculosis 2025-2031 (Plan Nacional para Acelerar el Alcance de la Eliminación de la Tuberculosis, 2025-2031)* was published in 2026, recognises TB as a national priority and sets four operational steps to achieve TB elimination, promote health equity, and reduce catastrophic effects for TB patients and families [30]. Third, the *Resolution 1044 (Resolución 1044)*, adopted in 2025, supported the *Public Policy on Human Talent in Health 2025-2034 (Política Publica de Talento Humano en Salud 2025-2034)*, to strengthen health professionals' training on integrating digital health tools and technological innovation and improve the quality and timeliness of TB care across 32 departments [31].

Fourth, Colomba`s Heath Benefits Plan (Plan de Beneficios en Salud, PBS) ensures the allocation of public resources for TB diagnosis, treatment, and care management. Finally, the national investment increased to 14 million Colombian pesos (equivalent of US $3.6 millions) in 2025 – up from 12.9 million Colombian pesos in 2023 and 7.8 million Colombian pesos in 2022 – to cover the costs of complex TB care through early diagnosis and treatment continuity that can prevent interruptions [32]. This expanded investment supports accelerated, targeted interventions in vulnerable populations (e.g., incarcerated persons, homelessness, migrants, impoverished communities) to close gaps, reduce disease transmission, and advance toward TB elimination [33].

As physicians of the Colombian Medical Federation (Federación Médica Colombiana), we uphold that our professional commitment must transcend early TB diagnosis and treatment that aligns with the WHO End TB Strategy. Medical training must integrate approaches from precision medicine and global public health as well as support interdisciplinary collaborations, to ensure a comprehensive, evidence-based, and patient-centred approach to TB care. As we advocate for universal access to diagnosis with rapid molecular tests, guaranteed therapeutic adherence, and surveillance of drug resistance, we must not

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forget the importance of addressing social and structural determinants of health (e.g., poverty, overcrowding, malnutrition) and supporting international cooperation toward TB elimination.

Cuba

Cuba's health system provides universal, free, and community-based primary healthcare services to 11 million residents. Over the past 25 years, TB incidence (per 100,000 population) has steadily declined, from 23 cases in 2000 to a historic low of 5 cases in 2021 [34]. Notably, before the COVID-19 pandemic, a persistent diagnostic gap (1.8–2.5 TB cases per 100,000 population) existed between estimated burden and notified cases. However, the pandemic exacerbated systemic weaknesses, with estimated TB incidence (per 100,000 population) rising from 5.4 in 2021 to 7.7 in 2022 and 11.4 in 2024 [35]. This resurgence both reflects the economic crisis intensifying TB-related social determinants and the resilience of Cuba's surveillance infrastructure in supporting early diagnosis and treatment. These multidimensional challenges underscore the complex interplay between TB epidemiological trends and social determinants of health.

Cuba's political commitment to TB control began with the establishment of the TB Department in 1959, followed by the first National TB Control Program in 1963, which was reorganised in 1970 to integrate specialised services, including bacteriology laboratories, sanatoriums, and dispensaries [36]. This framework fostered a preventive model integrated into primary healthcare, supported by family doctors and nurses engaged in community-based surveillance and home visits. As the economic crisis has significantly constrained the network's operational capacity, the National TB Program has prioritised active case finding, recognising that restoring the frequency and reach of home visits – once a cornerstone of TB control in the nation – is essential, especially for vulnerable and marginalised communities.

To address these challenges, Cuba's National TB Program has strengthened its technical coordination efforts through two workshops. In May 2024, the "Pedro Kourí" Tropical Medicine Institute (Instituto de Medicina Tropical "Pedro Kourí," IPK) hosted the international workshop entitled, "Management of TB and TB/HIV Coinfection: The Paradigm Shift to End TB," convening multidisciplinary experts to assess operational barriers and identify context-adapted strategies in TB/HIV control. The National TB Program has conducted implementation research that has highlighted specific bottlenecks, including knowledge gaps among primary care physicians about LTBI diagnostic tests, emphasising the need for sustained investment in clinical training in low-burden settings [35]. In September 2025, a national workshop brought together program managers and pulmonologists from all provinces to update the National TB Control Program. This forum enabled participants to review epidemiological trends, examine the impact of economic constraints on program implementation across territories, and build consensus on context-specific priority actions. Collectively, these technical events demonstrated that, despite profound operational limitations, Cuba maintains institutional capacity for programmatic leadership, evidence-based decision-making, and continued commitment to TB elimination.

The recent increase in TB incidence in Cuba, set against a profound economic crisis, should be regarded as a cautionary signal for all low-burden settings worldwide [35]. A national TB program's strength is defined by its adaptability and its capacity to reach vulnerable populations. Strengthening intersectoral governance is essential, linking TB control programs to social protection, housing, and food security initiatives that address the root causes of vulnerability. An effective TB research strategy requires two components: operational research to identify undiagnosed infections and transmission hotspots, and implementation research to uncover local bottlenecks, foster community engagement, and evaluate adaptive strategies in resource-limited settings [35]. Cuba's experience offers a crucial lesson for the Americas: the End TB Strategy targets cannot be met without tackling poverty, inequality, and the social determinants that predispose individuals to TB. On World TB Day, we urge policymakers, international partners, and civil society to recognise that ending TB is a dynamic, research-driven endeavour that demands continued vigilance and long-term investment.

Dominican Republic

As the global health community recognises World TB Day annually on 24 March, it offers an important reflection for health professionals in the Dominican Republic to share key lessons and unite expertise and

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resources to curb TB transmission across the nation and geographic region. The Dominican Republic, a Caribbean nation of 11 million residents that occupies the eastern two-thirds of the island of Hispaniola, has actively invested in TB control efforts at the local and national level, aiming to reduce the TB incidence and mortality by 80% and 90%, respectively, by 2030 [37,38]. The Dominican Republic Ministry of Health's National TB Programme has reported an estimated TB incidence (40 cases) and mortality (2-3 deaths) per 100,000 population in 2024, and 4,750 cases (including 293 drug-resistant strains), with a gradual decline from 64 cases per 100,000 people in 2011 [39,40]. The National TB Programme has identified high-risk groups that contribute to the overall TB burden (prison inmates as 12%, Haitian migrants as 14%, persons living with HIV as 22%), tailoring community-based programs and deploying mobile diagnostic units (with CAD4TB AI software) to minimise TB diagnostic gaps and bridge health and social services [40].

The Dominican Republic Ministry of Health has consistently invested in TB diagnostics and treatments, with over $200 million Dominican pesos (equivalent of US $3.4 million) for the annual budget [41]. First, the *Strategic Plan for the National Response to Tuberculosis (Plan Estratégico de la Respuesta Nacional a La Tuberculosis, 2022-2025)*, adopted in 2022, establishes a strategic framework that is aligned with international guidelines for the effective implementation of policies and activities across the nation [42]. Second, the *Resolution 0017-2023 (Resolución 0017-2023)*, approved in 2023, launched the Multisectoral Accountability Framework for TB (Marco de Rendición de Cuentas Multisectorial para TB) as a national health strategy among 17 federal and non-governmental organisations [43]. Third, the *Executive Order 1073-04* established the Single System Beneficiary (Sistema Único de Beneficiarios, SIUBEN) in 2024, to identify at-risk individuals and facilitate their participation in social services and financial assistance (per socioeconomic status) [37]. The *Executive Order 488-12* founded the Progression in Solidarity (Progresando con Solidaridad, PROSOLI) in 2012, to enhance social protections of households enduring extreme poverty [37]. Finally, the Two Oceans in Health research institute held the annual Epistheme event entitled, "Epistheme 2025: Advances in Research and Early Diagnosis in Tuberculosis" ("Avances en investigación y diagnóstico oportuno de la Tuberculosis") (https://www.youtube.com/live/OAJyaTsgY4) in September 2025, which highlighted significant achievements in curbing TB transmission and drug resistance through advanced diagnostic methods (like molecular testing), strengthening hospital-community connections, and grassroots initiatives. Some novel collaborations have included long-term research initiatives (since 2017) with the Hospital Infantil Dr. Robert Reid Cabral and U.S. academic institutions (University of Miami and Tulane University) to develop a new paediatric diagnostic test (respiratory and blood specimens) [44].

Using the "Yes! We can end TB!" theme, physicians in the Dominican Republic and worldwide can transmit this ambitious call to eliminate TB transmission. Understanding the intricate web of factors influencing health and well-being in and across countries – including the regional variation across the Latin America and Caribbean region – will offer insight into how to best align patient-centred TB care with patients' diverse health and social needs [45]. Sustained investment in scientific research, technological innovation, and health professionals' capacity building will be fundamental to streamline the adoption and implementation of modern diagnostic tools (e.g., point-of-care tests, molecular assays) in laboratory and patient care.

Haiti

World TB Day holds profound significance for Haiti, where the TB incidence was an estimated 100-299 annual TB cases per 100,000 population, among the highest globally in 2024 [2]. According to the Pan American Health Organization (PAHO), the age-adjusted TB mortality rate was 9.2 (7.9 for women, 10.5 for men) per 100,000 population in 2022 [46]. With half of TB cases undiagnosed and untreated in the country, the disease impact is compounded by limited access to health services, overcrowded housing, high population density, poverty, malnutrition, and HIV co-infection. Notably, the humanitarian and security crisis is gripping the nation, where gangs are controlling approximately 85% of the capital city of Port-au-Prince and other regions. This insecurity has forced several major TB clinics to close, including the Hôpital de l'Université d'État d'Haïti (HUEH) and the Hôpital Universitaire de Mirebalais (HUM) [47]. Overcrowding and unsanitary conditions prevail in internally

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displaced persons camps, making TB case management even more complicated.

Despite these major challenges, various public and private actors participate in the national response to combat TB transmission. First, the Haiti Ministry of Public Health and Population supports the National TB Programme (Programme National de Lutte contre la TB, PNLT), which coordinates national strategies for TB surveillance, screening, and universal access to management care. Recent advances include new rapid diagnostics (e.g., GeneXpert) and the adoption of shorter four-month regimens, enhancing TB care (especially for children) and treatment adherence. Second, as Haiti's largest non-governmental healthcare provider, Partners In Health (Zanmi Lasante) (https://www.pih.org/country/haiti), founded in the 1980s, had served more than 1.3 million people. In 2025, it conducted more than 6,500 TB screening tests before the closure of the Hôpital Universitaire de Mirebalais that year. Despite this major loss, the organisation continues to provide TB services through its network of 14 health facilities in the Central Plateau and Lower Artibonite region, contributing to early TB diagnosis, treatment (including MDR-TB care, and community awareness. Finally, the GHESKIO Centres (Groupe Haïtien d'Étude du Sarcome de Kaposi et des Infections Opportunistes), founded in 1982 by Dr. Jean William Pape, are among the first institutions in resource-limited countries dedicated to HIV/AIDS and infectious disease care. GHESKIO serves as Haiti's principal TB care centre, treating over 3,000 patients annually, operating one of the few hospitals specialised in prolonged MDR-TB care, and conducting internationally published TB research for over three decades.

As physicians, we have a crucial role to play in supporting TB care in our country, region, and world. Collectively, we can contribute to patient education and community campaigns conducted in urban and rural settings, focusing on TB symptoms for early diagnosis and treatment, rational antibiotic use, and treatment adherence to prevent drug resistance. Amid security challenges, we can halt TB transmission by ensuring the continuity of care and access to healthcare services for all TB patients. As community leaders, physicians must advocate regionally and globally to sustain decades of progress, ensuring timely diagnosis and treatment for all until TB has been eradicated worldwide.

Hong Kong

TB, an infection known to us since the territory's early days over a century ago, remains one of the most important infectious diseases in Hong Kong. Since 1939, TB has been a statutory notifiable disease in Hong Kong, requiring all confirmed and suspected cases to be reported to the government's Centre for Health Protection. Over the past six decades, the number of annual notifiable TB cases has gradually declined from the peak of 15,253 cases in 1967 to 3,214 cases in 2024. This significant drop was attributed to the strengthening of the Hong Kong health system by integrating the universal BCG vaccination programme (since the 1950s) and implementing the fully supervised DOTS for TB patients in a readily accessible ambulatory outpatient setting (since the 1970s). However, Hong Kong remains a region with moderate TB burden, with the TB notification rate of 42.5 per 100,000 population in 2024, with a 30% decline from 60.6 per 100,000 population in 2015) [48]. In contrast to countries with low TB burden, where infections in migrants primarily contribute to the burden, Hong Kong leaders have reported a high prevalence (50%) of LTBI among household contacts, possibly contributed to overcrowded living environments and waning immunity among the ageing population [48,49]. Moreover, the extremely high local BCG coverage (over 99%) paradoxically poses challenges in the TST interpretation [50]. Indeed, the *WHO Consolidated Guidelines on Tuberculosis* (2020) highlighted that: 1) regions with low to moderate TB burden to 1) perform systematic screening and LTBI treatment among high-risk groups; and 2) existing screening tests, namely TST and IGRA, only allow a modest detection of LTBI [50].

Over the years, the Tuberculosis and Chest Service of the Hong Kong Department of Health (https://www.info.gov.hk/tb_chest/en/index.htm), in collaboration with non-governmental organisations, most notably the Hong Kong Tuberculosis, Chest and Heart Diseases Association (https://www.antitb.org.hk/en/index.php), has played an essential role in TB elimination, with a focus on employing research and innovation in tackling the described bottlenecks. First, in 2018, recognising the importance of rapid TB diagnosis and accurate identification of potential drug resistance, especially in a densely populated and highly mobile cosmopolitan region, Hong Kong was among the first to incorporate an in-house-developed next-generation DNA sequencing

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platform using target amplicon sequencing into the territory's TB diagnostic algorithm, with published data showing this new approach to be both user-friendly and cost-effective [48]. Second, the recent implementation of a pioneering LTBI screening algorithm, combining TST with follow-on IGRA and routine retesting of negative individuals, was shown to capture a remarkable 95% of estimated future TB cases among household contacts in the local real-world setting (i.e., moderate TB burden with extremely-high BCG coverage). More importantly, the improved specificity of the screening translates into a five-fold increase in the protective efficacy ratio of LBTI treatment, enabling better acceptance of the treatment albeit risks [50]. Finally, as TB incidence wanes, it will become more important to maintain public TB awareness and reduce stigma, as mortality risks are associated with late diagnosis and delayed treatment. Indeed, public educational activities have long been held annually to commemorate World TB Day in Hong Kong, especially targeting elder and low-income communities, with public displays and health talks focusing on demystifying TB and promoting a healthy lifestyle (e.g., balanced diet, ventilation in living environments, smoking and alcohol cessation) [49].

The Hong Kong health system has achieved significant milestones over the past century. Yet with over 100 TB deaths annually, it falls short of success in curbing TB transmission – and lacks a clear WHO-recommended strategy and timeline for TB control and elimination. Researching the feasibility and cost-effectiveness of public health strategies, such as routine LTBI screening for institutionalised older adults (e.g., United States), could inform local epidemiology [52]. Finally, half of TB survivors now face post-TB lung disease, a spectrum of under-researched sequelae with low awareness among health professionals and policymakers. [53]. With persistent symptoms and functional impairments, addressing the long-term consequences of TB survivors persists as an under-recognised public health issue. On World TB Day 2026, we call for actions on health policies and infrastructure across regions to enable early TB detection and treatment and raise awareness of survivorship risks. Sustained investments in clinical research are fundamental for developing evidence-based clinical pathways that allow prevention and timely TB diagnosis and treatment (including post-TB lung disease), leading to improved short- and long-term patient care in the future.

Iceland

Iceland, a nation of 385,000 residents, faced a high TB burden in the early 20th century, but controlled endemic TB by the 1980s, discontinuing school-based screening for TB infection in the early 1990s. TB disease remains subject to registration and contact tracing is routinely performed when infectious cases or suspected recent infection occur. Over the past decade, TB rates have remained low but stable, with 7–16 new annual cases (annual incidence of 2–4.4 per 100,000 population). The Chief Epidemiologist of the Iceland Directorate of Health reported 109 TB cases between 2015 and 2024, with a total of 8 TB cases diagnosed and no drug-resistant strains in 2024 [54]. The principal factor preventing a further decline in national rates has been imported TB cases (identified through the residency permit screening process). Also, rates among individuals born in Iceland are very low (0.7 cases per 100,000 population), compared with European Union (EU) and European Economic Area (EEA) nationals (7 cases per 100,000 population) and WHO Western Pacific Region nationals (70 cases per 100,000 population).

In Iceland, policies were adopted to demonstrate political commitment to the prevention and control of infectious diseases posing a threat to public health. The *Law No. 19/1997 (Act on Health Security and Communicable Diseases)* established a basis for screening and contact tracing, which is primarily conducted within primary care [55,56]. The Chief Epidemiologist, whose role is defined by the aforementioned Act, issues annual reports on notifiable communicable diseases (including TB burden data) and updates national guidance on TB prevention and control in 2023-2024, which allows health professionals and patients to be involved in TB care management and actively support the preparation of patient-directed materials in several languages [57,58].

According to the *Act on the Medical Director of Health and Public Health No. 41/2007*, esp. Art. 4, the role of the Medical Director includes monitoring health services and health professionals, advising authorities and the public on health matters within the sphere of the Directorate, and promoting quality development in health services [59]. The Medical Director is also responsible for collecting data on the health

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of the population, and handling complaints regarding health services. TB care in Iceland is largely centralised and managed by infectious diseases specialists at Landspítali University Hospital in the capital city of Reykjavík.

World TB Day is a timely opportunity to raise awareness about TB in low-incidence countries, encouraging clinicians to maintain a high index of suspicion to facilitate early TB detection and treatment for every patient. Particular attention should be directed toward high-risk groups, including the highly mobile labour workforce from the EU, foreign-born long-term residents with recent travel to high TB incidence countries, and Iceland-born residents born before 1960. Continued vigilance, early detection, and equitable access to care remain essential to sustaining Iceland's progress toward TB elimination.

India

India, home to approximately 1.45 billion people, continues to account for nearly 25% of TB cases worldwide. In 2024, an estimated 11 million people developed TB globally, of which 2.6 million cases were detected in India [2]. To address this challenge, the National TB Elimination Programme, the largest TB control programme in the world, has significantly expanded its service coverage in recent years, reporting over 90% treatment coverage and success rates [60]. These efforts have contributed to a decline in the TB mortality rate from 28 per 100,000 population in 2015 to 21 per 100,000 in 2024. Key TB response efforts have included free cartridge-based molecular diagnostic testing and anti-TB drugs as well as major investments in diagnostic infrastructure (e.g., 9,391 rapid molecular testing facilities, 107 culture and drug susceptibility testing laboratories).

The India Ministry of Health and Family Welfare has been proactive in developing and scaling multisectoral strategies under the National TB Elimination Programme (NTEP) to drive India toward a TB-free future. First, health leaders developed the National TB Programme in 1962, and subsequently renamed the National TB Elimination Programme in 2020 to focus on TB elimination efforts [61]. The *National Strategic Plan India 2020-2025* and the *National Strategic Plan for Tuberculosis Elimination (2017-2025)* set ambitious goals to accelerate TB elimination efforts, including the provision of nutritional support and cash assistance through Direct Benefit Transfer schemes [62]. Second, the health system implemented robust public–private mix strategies to engage the private healthcare sector, where nearly 70% of TB patients initially seek care, 47% ultimately receive treatment, and high levels of pharmaceutical purchases in the private sector [63]. Third, community participation has strengthened through initiatives, such as the Ni-kshay Mitra (Friends of TB Elimination) Initiative that encourages the public to support the nutritional requirements of TB patients and promote social ownership of TB elimination efforts. In addition to the Indian Medical Association's long-term collaborations with the Government of India in TB care and control, other national professional medical associations have joined forces to form the Indian Medical Professional Association Coalition against TB (IMPACT). Understanding the priorities and needs of the public and private sectors can help develop best practices for private–public sector engagement, including fostering a sense of belonging within the national TB elimination effort and strengthening long-term collaboration [64].

India's experience demonstrates that effective public–private engagement is essential for achieving TB elimination, where a dedicated technical consultant can help coordinate interactions between public (National TB Elimination Programme) and private sector organisations. These efforts can help ensure smooth communication and activity implementation, timely problem-solving, and consistent follow-up of TB campaigns. Continuous dialogue and peer-to-peer sensitization can build trust and rapport and align private practice with the national TB care standards. Expanding professional coalitions, such as the Indian Medical Professional Association Coalition against TB, can help scale these national approaches and accelerate progress toward TB elimination. Also, the National TB Elimination Programme fosters "Jan Bhagidari" (Hindi term for people's participation) via TB champions and Ni-kshay Mitra adoptions, corporate pledges for workplace screening, and collaborations with line ministries, leveraging on the Whole of Society and Whole of Government approaches for accelerating TB elimination efforts.

Italy

For Italian physicians, World TB Day represents a moment of clinical responsibility and epidemiological assessment of TB that remains

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present in the most vulnerable segments of the population, including MDR-TB strains. Italy is classified by the WHO as a low-burden TB country, with fewer than 10 cases per 100,000 population [62]. According to the 2025 report by the European Centre for Disease Prevention and Control (ECDC), a total of 2,893 TB cases were reported in 2023, with a notification rate of 4.9 per 100,000 population [65]. In this epidemiological context (low national TB incidence), TB constitutes a challenge of healthcare equity related to children and country of origin. First, children (under 15 years old) accounted for 144 TB cases in 2023, doubling the rate from 2022 and aligning with the European trend (children as 4.3% of TB cases) [65]. Second, TB cases are higher among individuals born outside of Italy, reflecting the uneven global TB distribution and conditions of vulnerability (e.g., limited access to healthcare services, language barriers, housing instability) that can delay diagnosis and treatment [1]. In recent years, studies have been conducted in Sicily and Lombardy (with 13% and 11% of the national population, respectively), noting that 3,710 migrants were screened and diagnosed with LTBI (13.5%) and active TB (1.8%), and hence showing the importance of early detection [66].

The Italy Ministry of Health has proactively integrated previous TB guidelines (e.g., *Decree 112* from 1998 for TB Guidelines, 2010 Ministerial Recommendations on Contact Tracing and Management in Healthcare Settings) into the national health system. Furthermore, the *National Prevention Plan 2020–2025* and the *National Vaccination Prevention Plan 2023–2025*, set prevention priorities and vaccination guidelines for communicable diseases, respectively [67,68]. Meanwhile, the *State–Regions Agreement 2013–2016* defines TB diagnosis, treatment, and surveillance practices, and the National Institute of Health (Istituto Superiore di Sanità, ISS) published recommendations for TB control among migrants in 2018 [69]. Based on this regulatory framework, a series of national and interregional operational projects and networks has been developed: Lombardy established a regional disease prevention and management network; Emilia-Romagna developed a contact surveillance system; and Sicily and Piedmont issued operational guidelines for screening among migrant populations. Finally, the launch of the "Medici in Rete" ("Doctors in Network") project in 2025 – promoted by the Mario Negri Institute in Milan, the Stop TB Office in Palermo, and the Centre for Continuing Education and Professional Development of Health Service Personnel (Cefpas) in Palermo – involved general practitioners across the country (e.g., Verona, Bologna, Milan, Palermo, Naples) through training pathways (e.g., clinical internships) focused on care models for vulnerable populations and non-Italian citizens [70].

To address the TB burden in Italy and worldwide, Italian physicians make a clear appeal to transform TB from a silent disease of vulnerability into a structural public health priority. They can lead efforts to strengthen targeted screening and early diagnosis in high-risk population groups, enhance the management of TB infection and treatment adherence (including DOTS), and invest in continuous training and integrated networks between hospitals and community care. Addressing stigma and discrimination is vital for ensuring prompt access to care and effective outcomes for TB patients. TB programs are effective when they integrate public health and patient care, promoting local management, continuity of therapy, linguistic and cultural mediation, and collaboration with the third sector and organisations supporting migrants.

Ivory Coast

For physicians in the Ivory Coast, World TB Day serves as a reminder that, despite scientific and therapeutic advances, TB remains a disease deeply intertwined with social inequalities, economic insecurity, and structural healthcare weaknesses. The Ivory Coast National TB Control Program reported between 22,000 and 25,000 new TB cases each year, with an estimated incidence of 75-85 cases per 100,000 population and high mortality rate (especially among people living with HIV and socially vulnerable populations) [71]. Of 21,833 TB patients diagnosed in 2024, 43% were in the capital city of Abidjan [71]. Physicians face persistent daily challenges, including diagnostic delays due to limited access to diagnostic tests, difficulty in identifying extrapulmonary forms, and treatment interruptions due to social vulnerability, patient mobility, and persistent stigmatization. This reality highlights the central role of physicians as caregivers, health educators, advocates for patients' rights, and key players in health policy.

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To address the national TB burden, the Ivory Coast National TB Control Program (Programme National de Lutte contre la TB, PNLT) ensures the alignment of national strategies with international objectives for TB elimination, including free TB screening (e.g., rapid molecular tests) and recommended treatment regimens [72]. In parallel, national awareness campaigns, particularly intensified around 24 March, are deployed through the media, community networks, and health facilities to improve knowledge of TB symptoms, promote early detection, and combat misconceptions and stigma [69]. Continuing education initiatives focus on strengthening clinical diagnosis and management skills among health professionals, including complex management of TB/HIV co-infection and MDR-TB [73]. These actions, however, face funding constraints, heavy workloads for health professionals, and the need for better TB integration into primary healthcare and community services.

On World TB Day, Ivorian physicians are issuing a clear and resolute call to action for sustained TB investment in clinical diagnosis and management as well as social support, operational research, and human resources in health [74]. Physicians must continue to play a leading role in clinical, educational, and social care by systematically integrating TB care into primary healthcare services, improving patient education, and combating stigma and discrimination within the health system and wider community. At regional and global levels, solidarity among health systems, shared experiences related to clinical management, and continuing professional development are essential to achieving TB elimination. Collectively, Ivorian physicians and health professionals can transform TB from a silent tragedy into an equitable, humane priority – ensuring every patient receives dignified, quality care.

Latvia

For physicians in Latvia, World TB Day serves as a reminder that TB remains a clinically relevant disease despite a sustained decline in incidence. According to the *WHO Global Tuberculosis Report 2023*, Latvia is no longer classified among high TB burden countries (≥20 per 100,000 population). In 2023, the average TB notification rate in the EU and EEA was 8.6 cases per 100,000 population, with the highest rates reported in Romania (49.9 cases), Lithuania (25.3 cases), and Latvia (18.4 cases) [75]. However, Latvia's epidemiological situation has improved substantially over the past two decades: the number of newly registered TB cases declined by more than six-fold, from 1,820 in 1998 to 281 in 2024, and TB mortality (per 100,000 population) has steadily decreased from 3.3 deaths in 2021 to 1.5 deaths in 2024. The proportion of MDR-TB has declined markedly, from more than 300 cases registered annually in the early 2000s to 8.4% of all TB cases in 2025 [76]. As TB cases decline, however, timely diagnosis has become increasingly challenging, particularly for extrapulmonary TB. In 2025, 58 extrapulmonary TB cases (including bone and genitourinary forms) were registered, which are frequently diagnosed late due to delays in patients' health-seeking behavior and declining awareness across medical specialties. Additional challenges include delayed presentation due to reduced public awareness, increased population mobility complicating screening and follow-up, and workforce shortages – particularly fewer pulmonologists willing to work with TB patients in rural regions.

Latvia's TB response is grounded in long-term national commitment, structured public health policy, and specialist-led care. DOTS has been the national standard (no cost) since 1996, and nationwide access to rapid molecular diagnostics (including routine GeneXpert testing) enables early detection of TB and drug resistance. Latvia ensures the uninterrupted availability of anti-TB medicines and has introduced WHO-aligned shorter regimens for eligible patients with MDR/RR-TB. Long-standing national experience in individualised MDR-TB management has demonstrated the value of structured, specialist-led care and adherence support [77]. Video-observed therapy (VDOT), introduced in 2014, is being expanded nationally to improve treatment adherence and accessibility, particularly outside major urban centres. Latvia increasingly applies a holistic model of TB care that integrates psychosocial and municipal social service support to reduce treatment interruptions and improve outcomes. Evidence from DOTS-Plus programs, including Latvia, has shown that poor outcomes are influenced by both biomedical and social risk factors.

Paediatric TB prevention and early detection, primarily through systematic contract tracking, represent particular strengths in Latvia, especially with no paediatric TB deaths since 2010. In 2023, children aged 0–14 years accounted for only 1.4% of all TB cases in Latvia. Children diagnosed with RR-, MDR-, or XDR-TB are treated according to their own or source case susceptibility patterns, with all WHO-recommended new and repurposed medicines available for paediatric use, plus shorter regimens for non-severe drug-susceptible TB since 2022 [78]. Latvia also contributes to regional and global TB capacity-building through the WHO Collaborating Centre for Research and Training in MDR-TB (http://www.tblatvia.com/), based in Riga, which has supported professional training, research, and dissemination of good clinical practice across the region since 2004.

Three priorities define our call to action to accelerate TB elimination. First, strengthening early recognition of TB across all medical specialties, with particular attention to extrapulmonary disease, while maintaining a high index of suspicion in declining incidence settings, is essential to avoid diagnostic delays. Second, TB education and professional competence must be reinforced at all levels – undergraduate training, residency, and continuing medical education – with sustainable workforce planning to ensure the availability of trained TB specialists across the region and prevent expertise erosion. Third, TB care must remain firmly patient-centred, with effective physician–patient communication, stigma reduction, and integration of psychosocial and social support services to promote adherence and improve outcomes. Physicians have a responsibility to advocate for stable political and financial commitment to TB diagnostics, uninterrupted drug supply, digital adherence technologies, and equitable access to high-quality services. Latvia's experience demonstrates that even a small country can sustain high-quality, internationally aligned TB care, emphasising that continued vigilance, investment in education, and professional advocacy are essential to sustain progress.

Malaysia

World TB Day carries deep meaning for physicians in Malaysia because TB remains both an old foe and a persistent barometer of equity in our health system. After Malaysia's independence in 1963, TB in Malaysia was closely linked to poverty, overcrowding, and under-nutrition, and early campaigns focused on the BCG vaccination, sanatoria, and basic public health measures. Over the last 30 years, Malaysia has reduced TB incidence (per 100,000 population) from 140 in 1990 to 120 in 2023 [79,80]. However, progress has since plateaued, with TB cases rising from 21,727 in 2021 to over 26,000 in 2023 and 2024, with contributing factors including population ageing, diabetes, drug-resistant TB, and complex social determinants [1]. Mortality remains highest in the cities of Sabah, Sarawak, and Kuala Lumpur, reflecting the dual burden of urban overcrowding and porous, sparsely populated borders in East Malaysia. For Malaysian doctors, TB care now expands beyond a six-month regimen – it means navigating comorbidities, social stigma, and fragmentation across public and private care.

Over the past three decades, the Malaysia Ministry of Health has led efforts to reduce TB incidence across the country, especially focusing on screening high-risk population groups. First, a key pillar of TB control in Malaysia is the mandatory medical screening of foreign workers, many of whom originate from higher TB burden countries. The Foreign Workers' Medical Examination Monitoring Agency (FOMEMA), established in 1997, oversees the compulsory medical examination of foreign workers upon entry and during employment renewal. Screening, consisting of chest radiography, clinical assessment, and laboratory investigations to detect communicable diseases (including TB), is conducted through a nationwide network of panel general practitioner clinics across Peninsular Malaysia and Labuan (https://www.fomema2u.com.my). Between 2014 and 2018, a total of 5.8 million foreign worker medical screenings were conducted, where 2.4% were declared unfit for employment based on established medical rejection criteria. Of these medical examination failures, 62,380 cases (44.1%) were linked to TB, thereby placing general practitioners at the frontline of early TB detection [81]. Second, the Malaysia Ministry of Health implemented its *National Strategic Plan to End Tuberculosis (NSP-TB) 2021–2030*, aligned with the WHO End TB Strategy, which focuses on early case detection, active contact tracing, MyTB electronic surveillance, and screening of high-risk groups (e.g., people living with HIV or diabetes, prisoners, urban poor) [82]. Standardised clinical practice guidelines ensure TB management continuity across hospitals and primary care, and public health units conduct mobile outreach, education, and sputum testing [82]. Finally, the Malaysian Medical Association (MMA) continues to advocate for notification, private–public coordination, and screening protocols that are medically robust

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and respectful of patient dignity regardless of the country of origin [83].

Our call to action for physicians in Malaysia and around the world is to stop viewing TB as a "solved" or purely technical disease. Clinicians must maintain a high index of suspicion in primary care and emergency settings, notify cases promptly, and collaborate closely with public health counterparts to ensure treatment adherence, especially for mobile and marginalised populations. TB must remain a priority in continuing medical education, and screening practices should be adapted to new risk patterns, including non-communicable disease comorbidities and migrant mobility. Policy leaders must sustain investment in diagnostics, digital surveillance, and community outreach to avoid reversing decades of progress. From post-independence sanatoria to today's complex, mobile society in Malaysia, our task remains clear: detect TB early, treat it completely, and advocate for every TB patient until they are cured.

Myanmar

As physicians working in Myanmar active war zones, World TB Day serves as a solemn reminder of our dual frontline duties to stabilise injuries and vigilantly combat TB. With the chaos of conflict, this opportunistic infection can spread through disrupted treatments, mass displacement, and overcrowded shelters. Prior to the 2021 military coup, Myanmar ranked among the top 30 countries globally for TB incidence and MDR-TB burden. The Myanmar Ministry of Health and Sports reported an estimated 5% decline in TB incidence in 2017-2018, new and recurrent TB patients showed an 87% treatment success rate and a total of 194,000 annual TB cases (incidence rate of 360 per 100,000 population), 9,700 MDR-TB cases (incidence rate of 18 per 100,000 population), and TB mortality (13.3 per 100,000 population) in 2020 [84-86].

However, the military coup has demolished health facilities and disrupted diagnostics and therapies (even in internally displaced persons camps), leading to a decline in TB treatment success rates, a surge in mortality rates, and a silent epidemic fuelled by malnutrition, stress, forced conscription, and HIV co-infection rates [84,85]. UN reports revealed that TB cases increased sevenfold between 2020 and 2022, and as a result, Myanmar currently ranks fourth among nations with the worst TB epidemics [87]. Military action has severed pharmaceutical supply chains (leaving MDR-TB regimens in chronic shortage), surveillance programs (preventing accurate monitoring and improvising screening without adequate GeneXpert cartridges), and safe workplace environments for specialists (leading to evacuation or causalities) [89,90].

Under State Counsellor Daw Aung San Suu Kyi's leadership, Myanmar adopted the WHO End TB Strategy and only one in world that has achieved the key 2020 milestone: 20% decrease in TB incidence and a 35% reduction in TB deaths from the 2015 baseline [91]. The nation also endorsed the South-East Asia Regional Call for Action in 2017 and the Moscow Ministerial Declaration to end TB by 2030 in 2017, as well as attended the UN High-Level Meeting on TB in 2018 [2]. Health leaders conducted a comprehensive evaluation of the Myanmar National TB Programme and delivered targeted recommendations for strengthening the nation's overall TB response in 2019. As the *National Tuberculosis Strategic Plan 2021–2025*, launched in 2020, sets an ambitious long-term target to reduce the TB incidence rate to fewer than 10 cases per 100,000 population by 2035 [85]. The plan establishes an interim milestone of achieving a 50% reduction in TB incidence by 2025, measured against the 2015 baseline via key performance indicators. Regrettably, progress toward this national objective was significantly disrupted and stalled following the military coup, and shifted national priorities away from public health imperatives at a time when sustained momentum was most critical [91,92].

As physicians in Myanmar, our immediate call is to operationalise TB screening in every clandestine clinic and hospital, implementing rapid GeneXpert triage for high-risk patients, and advocating for UN-allocated armoured logistics corridors to secure drug and laboratory equipment deliveries. Physicians should be trained in point-of-care diagnostics and help foster community linkages between hospitals and internally displaced persons camps to close surveillance gaps. Regionally, health leaders can establish harmonised TB registries for Myanmar refugees enabling cross-border MDR-TB regimens and teleconsultations to prevent spillover epidemics. Globally, physicians must amplify resource mobilization, including donating short-course regimens and digital adherence tools to stockpiles, organising crash-training exchanges

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for depleted workforce via virtual platforms, and championing community advocacy by amplifying patient narratives to shatter stigma at forums like the UN General Assembly. We urge professional bodies, such as the WHO, WMA, and Junior Doctors Network, to lobby for the End TB Strategy funding (prioritising conflict settings) and support hybrid education models (blending in-person and virtual through cross-border training) for MDR-TB management. Through sustained political advocacy and resolute solidarity among peers, we can transform World TB Day from a time of lamenting losses into an enduring legacy of progress toward TB elimination.

Pakistan

Despite the availability of effective diagnostics and treatment, Pakistan continues to be among the high TB burden countries, with an estimated incidence of 266 cases per 100,000 population and approximately 51,000 TB-related deaths annually in 2024 [2]. However, delays in early diagnosis, suboptimal household contact screening, limited real-time digitalization of TB surveillance data, incomplete universal drug-susceptibility testing, and treatment interruptions continue to undermine TB control efforts. Risk factors, including overcrowding in urban settlements, weak integration of TB services with HIV programs, and poor management of comorbidities such as diabetes, further challenge TB control efforts in Pakistan [93].

Punjab, the most populous province, carries the largest share of the national TB burden, with 271,647 TB cases reported across its districts in 2025, reflecting both persistent community transmission and strengthened case detection through improved surveillance systems [94]. Province-wide Xpert MTB/RIF positivity averaged approximately 11%, indicating ongoing transmission in high-risk and underserved populations, and 2,138 drug-resistant TB patients were enrolled on treatment in 2025 [94]. Notably, Punjab functions as a sub-recipient under a federal financing structure, which can occasionally contribute to delays in administrative decision-making and procurement processes.

Over the past decade, the Pakistan National TB Control Program has implemented several policy-driven reforms in alignment with the WHO End TB Strategy to strengthen TB prevention and care: the *National Strategic Plan for Tuberculosis Control* (2020–2023 and 2024–2026) and the *National Tuberculosis Guidelines* (issued in 2019 and revised in 2024) [95]. Beginning in 2017–2018, diagnostic capacity has expanded through the nationwide scale-up of rapid molecular testing platforms such as Xpert MTB/RIF and Xpert Ultra, enabling earlier detection of both drug-susceptible and drug-resistant TB. To strengthen early case detection, artificial intelligence (AI)-assisted digital chest X-ray screening for systematic screening in high-risk populations was introduced in 2023, aligned with WHO guidelines and supported by global evidence [96,97].

In parallel, Pakistan began decentralising drug-resistant TB services in 2020 to improve access to care and treatment adherence. From 2021 and 2024, TB surveillance was strengthened through case-based electronic reporting platforms and digital dashboards, supporting real-time monitoring and data-driven program management. Mobile digital screening units, deployed since 2021, have further enhanced active case finding in remote and high-risk communities. Since 2020, national and provincial media campaigns have raised public awareness to promote TB prevention, early diagnosis, and treatment adherence, helping reduce stigma and improve health-seeking behaviour. Engagement of private healthcare providers remains essential, as a large proportion of TB patients initially seek care outside the public sector. Additionally, structured capacity-building programs for physicians, laboratory personnel, and frontline health professionals help support the adoption of updated clinical guidelines, ensure universal drug-susceptibility testing, and promote patient-centred TB care.

Ending TB requires strengthened governance, sustainable domestic financing, digital innovation, and integrated service delivery, where physicians can ensure universal drug-susceptibility testing and strictly follow standardised treatment protocols. The Punjab province plans to develop a cadre of master trainers to strengthen in-service training and cascade updated guidelines across all districts. The roll-out and scale-up of TB preventive therapy among high-risk populations (e.g., household contacts, people living with comorbidities) will be prioritised to interrupt transmission and prevent disease progression. Physicians and health managers can help reduce stigma and discrimination within healthcare settings by fostering respectful, patient-centred care and addressing negative attitudes that

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delay care-seeking or compromise adherence. Physicians must serve as educators, advocates, and public health leaders, committed to accelerating progress toward the End TB Strategy targets and reducing preventable deaths in Pakistan and globally.

Panama

World TB Day is a day to raise awareness of TB among the Panamanian population, where late diagnosis often leads to community transmission and advanced disease (including death). Aside from an observed rebound after the COVID-19 pandemic, the Panama Ministry of Health has reported a continued decline in TB incidence and mortality rates (per 100,000 population) since 2015. For example, TB surveillance reports showed 49 TB cases and 3.3 deaths per 100,000 population in 2024, and 46.6 TB cases and 4.0 deaths per 100,000 population in 2025 (unpublished Ministry of Health document). High-risk areas for TB in Panama include indigenous territories (like Kuna Yala and Ngäbe-Buglé) with limited healthcare access, overcrowding, malnutrition, and challenges with treatment adherence. Although urban areas (e.g., Panama Metro Region) have increased access to healthcare facilities, late-stage diagnoses and hard-to-reach populations (e.g., homeless, drug addictions) had challenged TB control (including drug-resistance), leading to the diagnosis of 450-500 annual TB cases.

Over the past decade, Panamanian leaders have made substantial progress to support TB elimination efforts in the nation. First, the Panamanian National Assembly (Asamblea de Diputados de Panamá) approved the *Law 169 (Ley 169)* in 2020, which was regulated by the Ministry of Health in 2023, ensuring free healthcare, special labor protections, and the prevention of stigma and discrimination for TB patients [95]. This policy was supported by the Parliamentary Front of the Americas, which offered a platform to share experiences from TB guidelines and policies across the Americas region; however, with the COVID-19 pandemic, consensus meetings with stakeholders were limited, and it took three years for formal implementation in the country. Second, the launch of the *National Strategic Tuberculosis Plan 2023-2027 (Plan Estratégico Nacional para el Control de la Tuberculosis en Panamá 2023-2027)* outlined key strategies, goals, and milestones tailored to Panama in order to achieve the Global Strategy to End TB by 2035 [99]. The *National Technical Standard for Tuberculosis Control (Norma Técnica Nacional para el Control de la Tuberculosis)* and the *Guidelines for the Clinical Management of Patients Diagnosed with Drug-resistant Tuberculosis (Norma para el Manejo Clínico del Paciente con Diagnóstico de Tuberculosis Drogoresistente)* offered essential strategies for clinicians as they lead the clinical management of TB patients [97,98]. Notably, the Panamanian public health sector – including the Ministry of Health, Social Security Fund, and PAHO – has prioritised TB elimination in a national initiative to eliminate 30 diseases [102].

To support global efforts to eradicate TB by 2035, Panamanian physicians must continue to raise community awareness of TB symptoms and the importance of early diagnosis and treatment. The Panama Ministry of Health can develop policies and initiatives that support TB patients, including reducing out-of-pocket expenses for transportation and nutritional support. A collaborative national approach – uniting public and private sectors, non-government organisations, regional governments, and other ministries (e.g., Ministry of Social Development and Housing) – can boost TB control and while establishing rural health clinics to expand healthcare access across Panama. Since health leaders have been actively involved in disseminating health messaging on TB symptoms and the importance of early diagnosis and treatment to the public, health professionals' training should incorporate updated TB education to build expertise at primary health facilities. Also, collaborating with the PAHO on initiatives that expand reach to remote communities (e.g. Bocas del Toro region) could help establish sub-centres or health posts as well as leverage innovative technologies like drones for delivering medications and laboratory supplies (vs long journeys by boat).

Philippines

World TB Day resonates deeply with Filipino physicians as a stark reminder of our nation's protracted struggle against TB, a curable yet persistent killer claiming nearly 70 lives daily and positioning the Philippines as the third highest globally in TB burden [103,104]. According to the Department of Health's National TB Control Program (https://ntp.doh.gov.ph/), approximately 739,000 new TB cases and 37,000 deaths were recorded in 2023, with an incidence rate of 643 per 100,000 – substantially above the Southeast Asian regional average [105]. For 2024, a total of 544,948 notified TB cases were documented, signaling persistent transmission amid urban overcrowding and rural vulnerabilities. This underscores the enduring challenge despite a slight decline in reported figures, highlighting the need for intensified detection efforts. The Philippine health system reports strained healthcare resources leading to critical gaps that hinder forward steps to TB elimination, including limited access to rapid laboratory diagnostics, rising MDR-TB with suboptimal (78%) treatment success rates, and sociocultural barriers (e.g. stigma, poverty-driven undernutrition, lingering pandemic disruptions) that erode trust in services [105].

Although the Philippines has demonstrated firm political leadership in confronting TB through bold legislation and coordinated national action, sustaining these gains demands continued physician advocacy and system-wide commitment. First, national leaders adopted the *Republic Act No. 10767 (Comprehensive Tuberculosis Elimination Plan Act of 2016)*, which set the legal foundation for TB elimination by guaranteeing free diagnosis, treatment, and preventive services, and by embedding TB care within primary healthcare – affirming TB control as a fundamental public health obligation (vs discretionary service) [103]. Second, the *Philippine Strategic TB Elimination Plan Phase 2 (PhilSTEP2) 2025–2030* builds on this mandate, setting ambitious national targets to reduce TB incidence (reduce to 300 per 100,000 population) and mortality (reduce to 5 per 100,000) by 2030, anchored on screening 12 million high-risk Filipinos by 2026 through intensified, community-based active case-finding [107,108]. These commitments are further advanced by the *Philippine Acceleration Action Plan for TB (PAAP-TB) 2023–2035*, which calls for sustained multisectoral partnerships and increased domestic investment (doubling the national TB budget to ₱4.2 billion or equivalent of US $71 million) in 2026, to expand shorter preventive regimens, digital contact tracing, and fully oral treatment for drug-resistant TB [109]. Crucially, these national strategies are translated into action through community-driven initiatives led by the Department of Health – from health education caravans and barangay-level capacity building to stigma-reduction campaigns such as TPTodo – mobilising physicians, local governments, and civil society to protect gains, close care gaps, and ensure that no person with TB is left behind [108].

The Philippines' leadership in global TB efforts shines through Dr. Ted Herbosa (Secretary of Health), current Chair of the Global Stop TB Partnership, who steers international strategies to end this epidemic (https://www.stoptb.org/). Consistently ranking 3rd or 4th worldwide in TB burden – accounting for 6.8% of global cases alongside India and Indonesia –the nation grapples with high rates of HIV-associated and drug-resistant TB, amplifying the urgency for innovative interventions. Dr. Maria Minerva Calimag (CMAAO President) participated in the July 2024 meeting in Kochi, India, which highlighted collaborative approaches to TB detection involving private physicians, backed by the Stop TB Partnership, and promoting knowledge exchange among high-burden countries [110]. Filipino physicians should seize this opportunity by blending international expertise with domestic initiatives to identify undetected cases and advance the WHO's 2030 end-TB goals.

Filipino physicians bear a critical frontline responsibility in translating national commitments into measurable impact. Championing the PhilSTEP2 requires embedding TB screening into every appropriate clinical encounter, advocating for sustained and protected TB financing amid competing fiscal pressures, and mentoring colleagues (particularly in primary care) on the effective use of innovations such as GeneXpert diagnostics. Beyond national borders, physicians in the Philippines can help strengthen regional collaboration through the Association of Southeast Asian Nations (ASEAN) platforms, which can advance shared surveillance systems, cross-border case management, and equitable access to future TB vaccines. At the global level, alignment with the WHO's "Commit, Invest, Deliver" initiative demands that physicians elevate patients' voices, confront stigma through public engagement and policy dialogue, and advocate for sustained research and innovation through international professional alliances. By acting decisively – through education, advocacy, and unified delivery – physicians can transform political commitments into lasting progress toward a TB-free Philippines and a healthier world.

Portugal

Over the past decade, although substantial progress in TB control has reduced incidence by 31.8% and related mortality by 68.9%

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since 2015, Portugal continues to report one of the highest TB incidence rates among Western European. According to the 2025 *National Tuberculosis Surveillance and Monitoring Report*, Portugal documented 1,536 TB cases with notification and incidence rates of 14.3 and 13.2 per 100,000 population, respectively, in 2024 [111]. These data represent a decline from 2023, with notification and incidence rates of 15.3 and 14.1 per 100,000 population, respectively, including 50 deaths in 2024. In 2024, 36 cases of MDR-TB were reported, representing a 63.6% increase from 2023, with cases concentrated in the Lisbon region and among migrants. Ensuring equitable access to timely diagnosis and care is critical for high-risk groups, including communities living in the Lisbon and Tagus Valley region (17.1 per 100,000 population) and migrants (notification rate 2.7 times higher than the national average of 38.9 per 100,000 population), which collectively account for 39.1% of all notified cases. Also, the median time from symptom onset to TB diagnosis in the country is estimated at 81 days (41 days to patients' first contact with health services, 14 days to the health system response.

Portugal's World TB Day 2026 activities reflect a comprehensive national strategy encompassing structural policy reform, clinical guideline dissemination, and community engagement. A landmark reorganisation of TB care delivery in 2024, replaced the former Pneumological Diagnosis Centres with Community Respiratory Clinics (CRCs), adopting a two-tier model in which Level B units provide community-based care to reduce barriers to health-seeking behaviour, and Level A centres in Porto and Lisbon serve as national referral hubs for complex and MDR-TB [112]. Designed to address broader respiratory health needs and mitigate the stigma historically associated with TB-dedicated facilities, this reform represents a deliberate transition towards integrated, patient-centred care. To further strengthen clinical capacity, the National TB Programme will launch an open-access, self-directed e-learning course ("Practices and Challenges in Professional Intervention") to disseminate updated, evidence-based TB guidelines across all care settings, which will be further reinforced by a national online continuing education event on 25 March 2026.

Also, community engagement activities will be conducted under the "Everyone counts to end TB" theme, with a national health literacy campaign to be deployed across DGS digital platforms from 23–25 March 2026, incorporating infographics and video testimonials from TB survivors. Co-organised with the Portuguese Lung Foundation and the Association for Tuberculosis and Respiratory Diseases at the Instituto Covas Lima in Beja, a commemorative event will acknowledge the historical foundations of TB control in Portugal. The *2025 National Tuberculosis Surveillance and Monitoring Report* will be formally released on 24 March 2026.

In Portugal, we call upon the medical community to actively engage in early TB detection, advocate for vulnerable populations disproportionately affected by TB (particularly migrants and people living with HIV), and integrate TB awareness systematically into primary care practice. The persistently high median time to diagnosis underscores the urgent need to strengthen clinical suspicion at all levels of care, expand access to rapid molecular diagnostics, and address social determinants that delay healthcare-seeking. Open access self-learning educational platforms and tools represent a concrete step towards improving professional preparedness, ensuring that no healthcare professional is left without access to evidence-based TB guidance. Globally, physicians can champion equitable access to TB diagnostics and therapeutics across all settings, actively combat stigma through evidence-based communication, and support the bold targets of the WHO End TB Strategy – a 90% reduction in incidence and a 95% reduction in TB-related mortality by 2035, relative to 2015 baselines [7]. Portugal's progress over recent decades demonstrates that TB elimination is not merely an aspiration but an achievable goal – one that demands the coordinated, sustained, and collective commitment of every physician, community, and health system.

Spain

World TB Day is a reminder for physicians working in Spain that TB has been controlled through effective public health measures, but has not yet been eliminated. As a low-incidence country, TB remains a persistent public health challenge in Spain, particularly among socially vulnerable populations. This burden falls disproportionately on marginalised populations, where 50% of reported cases occur among individuals born outside Spain, underscoring structural inequities and persistent barriers to timely diagnosis

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and sustained engagement in care [113]. The National Epidemiological Surveillance Network (RENAVE) reported 3,944 TB cases (8.2 cases per 100,000 population) in 2023, and 3,788 cases (7.9 per 100,000 population) in 2022 [113]. Despite this recent uptick, the long-term trend shows a 22.5% reduction in TB cases since 2015, noting the 80% TB treatment success in 2022 and sustained improvements in case management [113].

Spain's TB control strategy operates within a decentralised health system under a coordinated national framework. The *Plan for the Prevention and Control of Tuberculosis in Spain (Plan para la Prevención y Control de la Tuberculosis en España)*, launched in 2019, aligns national objectives with the WHO End TB Strategy, establishing standardised surveillance through mandatory notification via RENAVE and reinforcing the central role of primary care in early detection and follow-up [113,114]. Implementation is overseen by a Multisectoral Governance Group bringing together government, scientific societies, civil society, and academia, supported by formal agreements with the Spanish Society of Infectious Diseases and Clinical Microbiology (Sociedad Española de Enfermedades Infecciosas y Microbiología Clínica, SEIMC), Spanish Society of Pulmonology and Thoracic Surgery (Sociedad Española de Neumología y Cirugía Torácica, SEPAR), and Spanish Red Cross (Cruz Roja Española) to strengthen prevention and community outreach [114]. At the regional level, Catalonia's Model of Community and Public Action (Model d'Acció Comunitària i Pública, MACIP) programme deploys culturally adapted interventions through community health professionals to improve TB care among migrant populations [115], while SEPAR's TB Unit accreditation programme has demonstrated better clinical outcomes and notification rates in accredited centres [116]. Beyond surveillance and treatment, Spain contributes to global TB innovation through MTBVAC, a live-attenuated *M. tuberculosis* vaccine candidate developed at the University of Zaragoza [117,118].

As physicians working in Spain, our response to World TB Day must translate into concrete professional and political action. In clinical settings, maintaining a high index of suspicion for TB in primary and emergency care, particularly among migrant or homeless populations, remains the cornerstone of early case detection. Since clinical vigilance alone is insufficient, the persistent overrepresentation of foreign-born individuals among TB cases reflects structural inequities that medical education and healthcare organisations must address. Culturally competent care, dedicated pathways for mobile populations, and routine integration of social risk assessment into TB screening protocols are practical steps that the Spanish health system can prioritise through policy development and community initiatives. At the policy level, sustaining adequate funding for public health infrastructure, as much was depleted in the post-COVID-19 era, and addressing the social determinants that drive transmission (e.g., housing precarity, barriers to healthcare access) require explicit political commitment. At the regional and global levels, sustained research investment, equitable access to diagnostics and treatment, and accelerated vaccine development are key to TB elimination. Even in low-incidence countries, like Spain, epidemiological complacency risks reversing hard-won progress over the past decades.

South Africa

World TB Day is a reminder to physicians in South Africa of the persistent burden of TB and the important role they play in addressing the epidemic. South Africa remains one of the WHO high-burden countries for TB, TB-HIV co-infection, and drug-resistant TB, with 54% of TB patients also living with HIV [2,116]. The WHO reported TB incidence of 468 cases per 100,000 population in South Africa in 2023, with an estimated 270,000 TB cases (including 13,000 with drug-resistant TB) [119,120]. TB continues to claim a significant number of lives, with an estimated 54,000 TB-related deaths each year [120]. Although effective TB treatment is available, gaps persist in prevention, early diagnosis, and treatment completion, highlighting the need for sustained investment and innovation in TB care in the nation.

South Africa has implemented several national initiatives aimed at strengthening TB prevention, treatment, and advocacy across the health system. The *TB Strategic Plan 2023–2028*, which aligns with the broader *National Strategic Plan for HIV, TB, and STIs*, outlines national commitment to reducing TB incidence and mortality through improved screening, expanded preventive therapy, and integrated TB–HIV care [121]. Aligned with these priorities, the *National Guidelines on the Treatment of Tuberculosis Infection* were updated in 2023, incorporating recommendations from the WHO alongside local evidence and lessons learned from the implementation of TB preventive treatment programmes in South Africa [122]. Notably, the government launched the National TB Recovery Plan 4.0, targeting a 5% annual reduction in TB incidence and mortality [119]. The #EndTBSA campaign and community-based initiatives (e.g., Ward-Based Outreach Teams) are key components of this strategy, mobilising health professionals, communities, and civil society to strengthen case finding, improve treatment adherence, and reduce TB-related stigma.

In a health system facing one of the world's highest TB burdens, physicians have a critical responsibility to ensure early detection, initiate appropriate treatment, support treatment adherence, and integrate TB and HIV services within routine clinical care. In South Africa, where TB and HIV infections remain closely linked, physicians play a key role in ensuring the integration of TB screening within HIV services and initiating TB preventive therapy, where indicated, for people living with HIV. Beyond clinical management, physicians should advocate for the effective implementation of national TB strategies and clinical guidelines, including the *TB Strategic Plan 2023–2028* and the *National Guidelines on the Treatment of Tuberculosis Infection*. Physicians are encouraged to strengthen primary healthcare services by supporting community awareness campaigns and screening initiatives, as well as contributing to research that advances TB care and tackles social determinants of TB transmission. Physicians must consistently advocate for sustained investment in continued education and training, to enable healthcare professionals to adapt to evolving evidence-based guidelines and emerging challenges in TB care. Sustained action from physicians across clinical care, public health, research, and advocacy remains vital to strengthening TB control in South Africa and advancing the global effort to end TB.

Taiwan

World TB Day is more than a symbolic date for physicians in Taiwan – it is an annual "stress test" of whether our health system can keep TB on a steeply declining trajectory in the context of an increasingly superaging and diverse population. The "Yes! We can end TB" theme resonates in Taiwan, with demonstrated sustained political commitment, universal health coverage, and strong clinical–public health integration. Over the past two decades, although the national TB incidence (per 100,000 population) has declined by 66%, from 73 in 2005 to 25 in 2025, Taiwan's epidemiology has been shaped by two key factors [1]. First, elder adults share a higher TB risk – where 64% of TB patients were over age 65 years of age in 2024, with the 221.8 (per 100,000 population) age-specific incidence of patients over 85 years of age – creating clinical gaps (e.g., atypical presentations, multimorbidity, drug intolerance) and system gaps (e.g., diagnostic delay and transmission risk in hospitals and long-term care facilities) [123]. Second, cross-border mobility, with over 800,000 migrant workers in 2025 and foreign-born individuals comprising more than 10% of TB notifications since 2024, demands rights-based, continuity-oriented care pathways over episodic responses.

Taiwan's progress has been anchored by initiatives that combine law, financing, digital infrastructure, and workforce deployment, with two current initiatives relevant to the next phase of "ending TB." First, Taiwan has scaled up active case finding, TB infection diagnosis, and TB preventive therapy in long-term care facilities through system-level incentives. In 2023, the National Health Insurance pay-for-performance framework, under the Chronic Disease Quality and Care Plan, incorporated TB infection testing, treatment, and strategy in long-term care facilities, aligning facility-level practice with prevention goals in the at-risk population, as well as supported the latent TB infection pay-for-performance program for all and HIV quality and care projects [124]. Since 2025, the Taiwan Centers for Disease Control took over the budget and managed this program. Second, Taiwan has reformed its TB policy for migrant workers from a repatriation-default approach to a treatment-retention approach (since 2014) and grounded in patient consent and continuity of care (since 2022), leading to the marked rise in the proportion of migrant workers receiving TB treatment in Taiwan (90% between 2022 and 2025) [124]. These two initiatives reflect a strategic pivot to prevent TB in high-risk settings (e.g., long-term care facilities) and protect treatment completion with high mobility (e.g., migrant populations), complementing Taiwan's broader TB program infrastructure of integrated notification and management systems and high-coverage patient-centred treatment support.

Our call to action as physicians – in Taiwan, across the region,

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and worldwide – should match the urgency of the “Yes! We can end TB” theme and advocate for ambitious next steps. In Taiwan, clinicians should reframe TB as a geriatric and systems challenge, not just an infectious disease diagnosis, by screening TB in the elderly patients with non-specific symptoms, building shared-care pathways with clinical specialties and long-term care teams, and strengthening infection prevention and control in hospitals and long-term care facilities. We should advocate for a more rapid, sensitive diagnosis as the new standard paired with timely drug-resistance detection and streamlined lab–surveillance connectivity. For example, Taiwan’s rapid nucleic acid testing coverage was 74% for presumptive TB patients in 2023, with universal nucleic acid testing has been endorsed since 2025. Since catastrophic costs may still occur (e.g., 22% of non-MDR-TB and 45% of MDR-TB households in Taiwan), physicians should partner with public health and social services to reduce non-medical cost burdens, stigma, and loss to follow-up. Also, with Taiwan’s migrant policy allowing foreign workers with MDR-TB to be managed within the Taiwan MDR-TB Consortium under the same standards and support mechanisms as residents, physicians should proactively reassure employers that treatment retention protects workers’ rights and workplace health. Finally, we should defend rights-based, continuity-oriented TB care for migrants and mobile populations as a public health necessity, while investing in ongoing workforce training to empower primary care and institutional care settings for early detection, safe treatment, and preventive therapy.

Thailand

For physicians in Thailand, World TB Day serves as a critical reminder that TB remains a major public health challenge and underscores their responsibility to promote clinical treatment, early detection, and prevention. As a high-burden TB country, the estimated TB incidence is 146 per 100,000 population with 100,000 annual cases and 12-14 deaths (excluding HIV) per 100,000 population [2]. In addition to these statistics, a significant number of TB cases remain undiagnosed or unreported, drug-resistant TB requires vigilant monitoring and strong laboratory support, and active case finding remains limited among high-risk groups (including household and close contacts) [2,125]. The adoption of innovative diagnostic approaches is needed to improve access and accelerate detection, especially as Thailand transitions from Global Fund support to full domestic financing to ensure long-term sustainability and stable funding [2,126].

The *National TB Strategic Plan 2023–2027*, aligned with the global End TB Strategy, prioritises early detection, prevention, and patient-centred care through the four key pillars. First, Thailand’s universal health coverage schemes provide comprehensive, free TB services, encompassing the full continuum of care from TB diagnosis to management (including drug-resistant TB) [127]. Second, a nationwide expansion of rapid molecular testing has been implemented to shorten the diagnosis time and ensure early detection of RR-TB [126]. A new Thailand initiative, informed by local evidence including studies from Khon Kaen University and other Thai settings showing a substantial burden of isoniazid-resistant TB, adopts routine drug susceptibility testing for both rifampicin and isoniazid beyond WHO minimum recommendations, to ensure appropriate regimen selection and prevent further resistance amplification [126,128-130]. Third, intensified screening is conducted among high-risk groups, including correctional facilities, HIV and diabetes clinics, and vulnerable communities, with long-standing nationwide TB screening in prisons contributing to a clear reduction in TB incidence in this setting [125]. Fourth, TB preventive treatment is being scaled up for people living with HIV and paediatric household contacts. Thailand also utilises the National TB Information Program to support case notification, monitoring, and continuity of care nationwide [125,126].

The Thailand health system can achieve the goals of the *National TB Strategic Plan 2023–2027* by increasing awareness of asymptomatic TB and implementing proactive screening for high-risk groups, integrating TB preventive treatment into routine clinical practice as standard patient care, and strengthening TB services at the primary care level to improve early detection, follow-up, and adherence support [125,126]. Physicians can promote clinical research in the Thai population to evaluate shorter treatment regimens and real-world outcomes, maintain continuous training on next-generation diagnostics and management of drug-resistant TB, and advocate for sustained domestic investment as Thailand transitions from international funding to fully domestic, sustainable TB care [2,126].

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Trinidad and Tobago

World TB Day, celebrated annually on 24 March, holds immense significance for Trinidad and Tobago allowing an opportune moment of reflection on key achievements while underscoring the significant work that remains to be done. Trinidad and Tobago's estimated TB incidence rate is 27 per 100,000 population, leading to an alarming 49% increase in incidence rate over the past decade [2]. Equally concerning is that 80% of the notified TB cases in 2024 occurred in the economically productive age group, and the three main attributable risk factors for TB disease included HIV, diabetes mellitus, and alcohol use disorders. These figures highlight a growing public health challenge in the Caribbean nation that requires urgent and sustained intervention.

In recent years, Trinidad and Tobago has implemented several health system initiatives and policies to strengthen TB care within the National TB Program, with additional initiatives planned for this year. Paramount among these initiatives is the official launch of the *National Tuberculosis Guidelines* on World TB Day 2026, as a national framework to ensure that clinical practice aligns with the updated WHO consolidated guidelines and evidence-based practices worldwide. The launch of these guidelines highlights progress achieved through multidisciplinary collaboration, supports ongoing physician training and education and strengthens advocacy for patient-centred care. Second, interventions, such as expanding TB screening and preventative treatment in high-risk groups including people living with HIV, inmates, and immigrants from high TB burden countries, will ensure that Trinidad and Tobago aligns with the UN SDGs. Third, the introduction of shorter treatment regimens for both drug-susceptible and drug-resistant TB will improve treatment adherence, ensure higher treatment completion rates, reduce loss to follow-up, lower risk of drug resistance, and generate economic benefits for health systems.

To improve TB care in Trinidad and Tobago, physicians must champion a multifaceted approach to promote the importance of early medical care and intervention through increased public education about TB symptoms and risk factors. Strengthening clinical training for health professionals and expanding primary care networks can prioritise early detection, which can lead to better patient outcomes. The integration of electronic data collection systems as a centralised, interoperable platform can connect all levels of care, reinforce primary healthcare capacity, and improve patient tracking to minimise loss to follow-up, particularly among high-risk and vulnerable populations. Increased funding allocated to the healthcare system and medical research will ensure earlier access to care, advanced diagnostic tools, and effective delivery of TB services. Nationally and globally, collective advocacy for policy reforms can address systemic challenges in TB care, closing existing gaps and ensuring timely, equitable treatment for all. On a regional and global level, collaboration among healthcare professionals is crucial and we must share best clinical practices and collectively advocate for policies that mitigate risk factors such as substance abuse. This year's "Yes! We can end TB" theme reinforces the need for global solidarity, reminding us that ending TB requires shared responsibility, sustained commitment, and collective action across all borders.

Conclusion

"World TB Day unites us under a clear message: 'Yes! We Can End TB!' This is a call for urgent action to restore momentum and decisively turn the tide against this epidemic, even amid today's complex global challenges." - Dr. Tereza Kasaeva, WHO Director of the Department for HIV, Tuberculosis, Hepatitis, and Sexually Transmitted Infections

World TB Day offers a timely opportunity to acknowledge key achievements in TB control and reaffirm ongoing commitment to the End TB Strategy goals. Broadening the traditional biomedical paradigm to TB prevention and control enables the global medical community to address structural, operational, and social determinants [131]. Next-generation low-cost molecular diagnostic techniques (such as Xpert MTB/RIF) and AI-based technologies (including chest radiography) are accelerating the diagnosis and interpretation of *M. tuberculosis* [44,132,133]. Translational research can further drive the development of rapid point-of-care diagnostic tools (e.g., portable lab-in-tube system) to detect *M. tuberculosis* antigens in blood and respiratory samples from children and adults, even in settings without GeneXpert infrastructure [44].

Several vaccine candidates are currently advancing through the clinical trial pipeline, moving beyond the century-old BCG vaccine.

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By introducing shorter treatment regimens, novel pharmacological approaches have strengthened patient adherence, improved clinical outcomes, and helped address the challenge of drug-resistant TB [132]. The design and development of policies and community-based initiatives that incorporate precision public health (data-centric approaches to determine disease trends and risks) and actively promote community engagement is fundamental to delivering TB preventive therapy, nutrition support, cash transfer programs, and integrated care management (e.g., TB partnerships with diabetes and HIV clinics) [131]. Finally, with approximately 140,000 zoonotic TB cases and 11,400 deaths each year, establishing a clear case definition and understanding the role of point-of-care diagnostics to detect disease transmission in animals and humans underscores the importance of applying the One Health concept to understand interconnected risks [134].

The global medical community holds an influential voice to advocate for TB elimination – articulating the "Yes! We can end TB!" theme – and ensure social support and protection for TB patients and their families. WMA members, who are skilled medical experts in clinical, community, education, laboratory, research, and surgical settings, can lead and contribute to the development of relevant TB policies that can be adopted across health systems and communities. Since robust national TB programs are an essential pillar of global health security, TB health diplomacy can drive resource mobilization, foster global and cross-sectoral collaboration, and engage stakeholders to guarantee equitable access to TB prevention, care, and research [135]. Health professionals' training programs incorporating evidence-based TB content can strengthen clinical competencies in TB prevention, diagnosis, and care. This collective article demonstrates the pivotal role of physicians as leaders, directly engaged in policy development, health system governance, and capacity building of health professionals across the Africa, Americas, Asia, Europe, and Pacific regions.

Disclosure

The views expressed in this article are those of the authors and do not necessarily reflect the views of any government or institution. Representative authors are accountable exclusively for the content corresponding to their own countries and bear no responsibility for content related to other countries.

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