




**31<sup>st</sup> EDITION**

# Bulletin

**World Medical Association  
Junior Doctors' Network**

**2025**

[www.wma.net/junior-doctors/](http://www.wma.net/junior-doctors/) 

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# About Us

## What is the JDN?

The Junior Doctors Network (JDN) serves as an international platform for junior doctors to facilitate an open dialogue of global events and activities that are relevant to their postgraduate training and the World Medical Association (WMA).

It was created at the 61st WMA General Assembly (October 2010) in Vancouver, Canada and the inaugural JDN meeting was held at the 62nd WMA General Assembly (October 2011) in Montevideo, Uruguay. The network, which started from a few motivated junior doctors, now has a total of over 900 members from more than 90 countries from all regions of the world.

Junior doctors are defined as physicians, within 10 years after their medical graduation.

## What is the mission?

The purpose of the JDN is to empower young physicians to work together towards a healthier world through advocacy, education, and international collaboration.

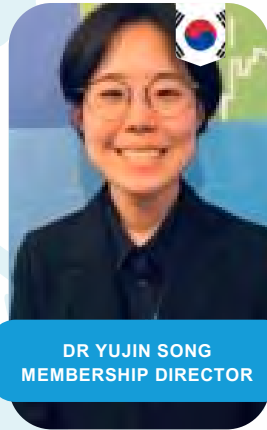
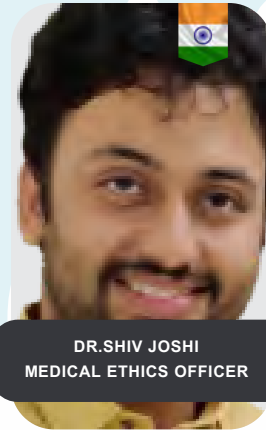
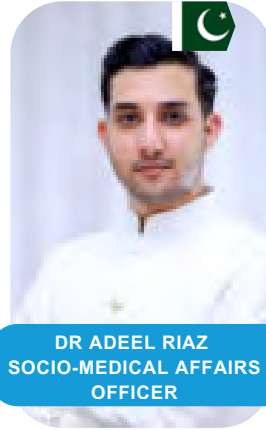
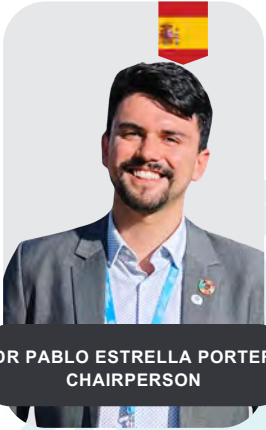
## What do we do?

Networking:

During the regular JDN meetings, members get to know each other, discuss global health issues, share challenges, and start collaborations on global health issues. The JDN meets on several occasions during the year, both in-person and via online teleconferences:

- Biannual meetings in conjunction with the Council Meeting and the General Assembly of the WMA (April & October).
- Monthly general membership and management team teleconferences
- Ad-hoc online and webinars organized by the JDN

# Meet the WMA JDN Leadership 2024 - 25



## Publications Team



**DR VENKATESH KARTHIKEYAN**  
EDITOR IN CHIEF



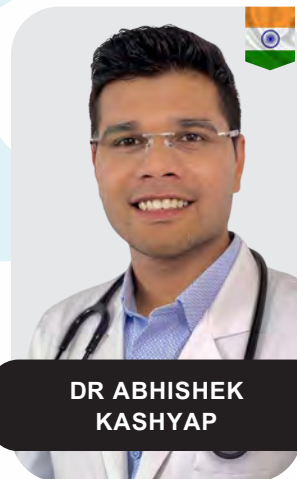
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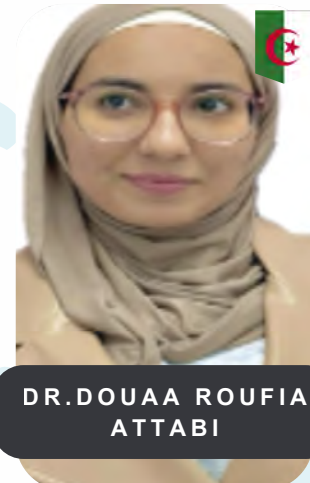
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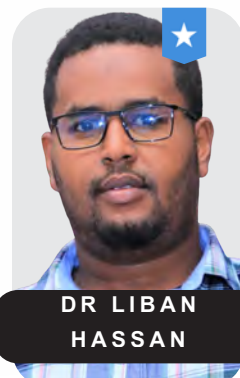
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## Special Message from WMA President

I am very pleased to be able to contribute a foreword to this bulletin. The Junior Doctors Network (JDN) is an important part of the World Medical Association (WMA). The WMA strives to raise and respond to issues affecting the medical profession around the globe. Obviously, we do depend on our members to raise or highlight issues that might have escaped the notice of the Secretariat.

Junior doctors occupy a particularly vulnerable niche in the medical ecosystem, under pressure from above and below, from patients, employers and superiors. They are also starting their careers at a particularly volatile period, as the profession tries to understand and adapt to the use of IT and especially Artificial Intelligence (AI) in daily practice.

If the profession is to grow and maintain its ethical standards in this environment, we need junior doctors to voice their concerns and ideas out. In daily life their voices may not have much effect, but working through the WMA they will have both a voice and an effect on how medicine evolves.

To the readers of this bulletin, I say please bring forward your ideas, questions and concerns to your elected JDN representatives. They have both a voice and a seat at our deliberations, and your contributions will strengthen the junior doctors and the WMA.

Thank you,

Dr Ashok Philip  
President  
World Medical Association





## Special Message from WMA President Elect

It is with great pleasure that I introduce the 31st edition of the WMA Junior Doctors Network (JDN) Biannual Bulletin. This publication serves as a testament to the unwavering dedication, resilience, and impact of junior doctors across the globe. As the next generation of medical leaders, you play an integral role in shaping the future of healthcare—through advocacy, research, and frontline service.

This edition highlights the achievements and perspectives of junior doctors while tackling critical global health themes. The past few years have underscored the essential role of young physicians in responding to health crises, advancing medical education, and championing patient-centred care. Your voices, experiences, and insights are invaluable as we navigate the evolving landscape of global health.

The WMA JDN continues to foster a dynamic platform for collaboration, leadership, and professional growth. Through this bulletin, we celebrate the tireless efforts of our members in improving healthcare systems, advocating for equity, and ensuring the well-being of both patients and physicians.

I encourage you to engage deeply with the stories and reflections within these pages. Let them inspire you to push boundaries, to innovate, and to remain steadfast in your commitment to the medical profession.

Thank you for your dedication to the global medical community. Your contributions today will define the future of healthcare.

Dr. Jacqueline W. Kitulu (MBS, OGW, MD, MBA FCMA)

President-Elect

World Medical Association





## Foreword by Chair

It is my privilege, as Chair of the Junior Doctors Network (JDN), to introduce the 31st edition of our JDN Bulletin—a true example of the collective passion and perseverance of junior doctors worldwide. This publication showcases articles from colleagues who have dedicated their time to explore, discuss, and share unique perspectives on diverse health topics.

By creating this space, we reaffirm our commitment to fostering culturally diverse dialogue, promoting international collaboration, and sharing experiences at the local and national levels. Through its working groups, external representation, and advocacy initiatives, the JDN continues to address key global health issues while empowering members to continue their meaningful contributions in their national and local communities.

This newsletter stands not only as a record of our accomplishments but also as a source of inspiration for what we can achieve when we unite our voices and efforts. My sincere gratitude goes to every contributor and to the publications team. Your hard work propels us forward and demonstrates the power junior doctors hold in shaping the future of healthcare.

Thank you for upholding the values of the World Medical Association’s Junior Doctors Network. Together, we will build on the success of this edition and broaden our impact on global health.

Warm regards,

Dr. Pablo Estrella Porter  
Chair 2024-25  
Junior Doctors Network  
World Medical Association





## Foreword by Deputy Chair

Dear Colleagues,

First and foremost, I want to extend my heartfelt thanks to all the contributors to this edition of the JDN Bulletin. Your dedication, insight, and time have brought to life a powerful reflection of the work junior doctors are doing across the globe to advance public and global health.

Each article in this issue stands as a testament to the passion and expertise within our network. From reporting on high-level international engagements—such as the WHO Executive Board Meeting and the 2nd Annual Patient-Centred Care Africa (APCCA) Conference—to exploring critical themes like Antimicrobial Resistance (AMR), the impact of climate change on health, physician burnout, and the integration of artificial intelligence in surgery, your contributions highlight the depth and diversity of challenges we are engaging with.

What's particularly inspiring is how these varied topics collectively showcase something bigger: the meaningful and growing involvement of youth in shaping public health discourse and action. As junior doctors, we are uniquely positioned at the intersection of clinical service, policy influence, and innovation—and the voices captured in this edition reflect just how powerfully we are stepping into that space.

Thank you again to every author and to the JDN Publications Director for making this edition possible. Your work reinforces the importance of our collective mission and the impact we can have—both individually and together—on the future of healthcare.

With appreciation and solidarity,

Dr. Balkiss Abdelmoula, MD. MPH.  
Deputy Chairperson  
Junior Doctors Network  
World Medical Association





## Foreword by Publications Director

Dear Junior Doctors Worldwide!

It is with great pride that we present to you the 31<sup>st</sup> edition of the World Medical Association – Junior Doctors Network Bulletin. This edition brings together a rich collection of perspectives, experiences, and research from junior doctors around the globe, addressing timely and important themes.

Our contributors have delved deeply into topics that not only shape our daily practice but also define the future of healthcare. Their work reflects the diversity, dedication, and vision of young physicians committed to advancing both the science and the art of medicine.

I extend my heartfelt thanks to all the authors for their thoughtful and well-crafted submissions, which make this edition a valuable resource for the global medical community. My sincere gratitude and appreciation go to the WMA JDN management team and to our publications team, whose relentless support, editorial expertise, and commitment have made this publication possible.

This bulletin is more than a collection of articles—it is a call to dialogue, collaboration, and continued learning. I warmly invite young doctors worldwide to share their voices in our future editions. Your contributions will help strengthen our shared mission.

For submissions and discussions, please feel free to reach out to me via email ([publications.jdn@wma.net](mailto:publications.jdn@wma.net), cc to [4852012@gmail.com](mailto:4852012@gmail.com)). Let us continue to learn, grow, and inspire—together.

Best Regards,

Dr. Venkatesh Karthikeyan MD (AIIMS), FRSPH (London),  
Publications Director,  
Junior Doctors Network,  
World Medical Association.





## Report on WMA JDN's Participation in the WHO Executive Board Meeting

Dr. Saksham Mehra



Dr. Saksham Mehra  
External Affairs  
Chair of the Trinidad  
& Tobago Medical  
Association.

The 156th session of the World Health Organization (WHO) Executive Board (EB) was held at WHO headquarters in Geneva, Switzerland. This meeting served as a crucial platform where Member States convened to agree upon the agenda for the World Health Assembly and determine the resolutions to be considered by the Health Assembly. I had the privilege of participating in this high-level forum, engaging in discussions that shape international health policies and advocating for the role of physicians in global health. This report provides a holistic overview of key themes discussed during the meeting, the engagement and contributions of WMA-JDN, and personal reflections on the experience.

### Key Themes and Issues Discussed at the Meeting

The WHO Executive Board meeting addressed a range of pressing global health challenges, including governance reforms, universal health coverage (UHC), health workforce sustainability, climate change and health, and the growing burden of non-communicable diseases (NCDs). Mental health emerged as a critical area of focus, with discussions emphasizing the need for greater investment in mental health services, the integration of mental health into primary healthcare, and the rising impact of social isolation on overall well-being. Attendees underscored the necessity of cross-sectoral collaboration to enhance mental health support systems and ensure equitable access to mental health resources. Strengthening WHO's operational efficiency, transparency, and accountability was also a focus, ensuring alignment with Sustainable Development Goals (SDGs) and UHC objectives. Discussions on pandemic preparedness mechanisms, equitable vaccine distribution, and financing gaps for global health security were extensively covered.

Addressing systemic health inequalities, ethical recruitment practices, and workforce shortages was a major concern. The global response to NCDs and the rising mental health crisis, particularly among vulnerable populations, was also reviewed. The need for climate-resilient health systems and reinforcing WHO's role in addressing environmental determinants of health were emphasized. Additionally, there were crucial discussions regarding the health crisis in Palestine, calling for urgent humanitarian assistance and healthcare infrastructure protection.

### Role, Contributions, and Statements Presented

WMA-JDN played an instrumental role in representing the voice of junior doctors and medical professionals worldwide. The delegation delivered four key statements addressing critical global health challenges, including non-communicable diseases, mental health and social connection, universal health and preparedness review, and climate change and health. These statements underscored the importance of a multi-sectoral approach in tackling these pressing issues and highlighted the role of physicians in contributing to effective health policies and systems. I personally delivered two of the four statements on mental health and social connection, and follow-up to the political declaration on NCDs.

Beyond statement delivery, the WMA-JDN delegation actively engaged in strategic discussions and networking opportunities, strengthening advocacy efforts. The meeting provided an invaluable platform to connect with key stakeholders in global health, including WHO leadership, policymakers, and representatives from non-state actors in official relations with

the WHO. These interactions facilitated discussions on the broader role of physicians in shaping health policies and ensuring equitable healthcare access. Additionally, this event served as an avenue for meaningful networking opportunities, fostering collaborations that can contribute to future health initiatives.

### Major Takeaways

The WHO Executive Board meeting underscored several key insights. Medical doctors play a crucial role in global health advocacy, influencing policies that shape healthcare systems worldwide. The inclusion of junior medical professionals in decision-making processes is vital for ensuring sustainable healthcare solutions. Effective health policy reform requires collaboration across sectors, including governments, international organizations, and civil society. Investing in primary healthcare, digital health solutions, and equitable workforce distribution is fundamental for achieving UHC. Additionally, the role of physicians extends beyond patient care to advocacy and policy leadership, ensuring that healthcare decisions are informed by those with frontline experience.

A significant highlight was the discussion surrounding health workforce challenges. The growing demand for healthcare professionals, compounded by migration patterns and ethical recruitment concerns, remains a key policy issue. The WHO Global Code of Practice on the International Recruitment of Health Personnel provides essential guidance on managing workforce shortages while safeguarding the healthcare systems of source countries from adverse impacts due to migration.

Climate change and health were also focal points of the meeting, with a strong emphasis on framing climate change as a health crisis rather than solely an environmental issue. Rising temperatures, worsening air quality, and increasingly frequent extreme weather events present significant health risks, necessitating immediate and coordinated global action. Our statement on climate change and health called for strengthened policies that integrate climate resilience into health systems, emphasizing sustainable healthcare practices and minimizing the sector's carbon footprint.

Attending EB was a deeply enriching experience that reinforced my passion for global health advocacy. Witnessing high-level deliberations firsthand provided a unique perspective on the complexities of health governance. Representing an esteemed association and advocating for WMA-JDN's priorities alongside a dedicated and efficient team was both an honour and a privilege. This experience has strengthened my commitment to global health and inspired me to further engage in policy discussions that impact medical professionals and patients worldwide. This experience was also relevant to me as the Organizing Committee member for the PreWHA this year, providing insights into global health governance and advocacy that will be valuable in shaping discussions at the upcoming event. I encourage fellow junior doctors to seek opportunities for advocacy, ensuring that the medical profession remains at the forefront of shaping equitable and sustainable healthcare systems.



From L to R: Dr. Pablo Estrella Porter, Dr. Jeazul Ponce Hernandez and Dr. Saksham Mehra, attending the 156th session of the WHO EB held at WHO Headquarters in Geneva, Switzerland.

### Future Directions and Follow-Up Actions

As a follow-up to the WHO Executive Board meeting, WMA-JDN aims to continue strengthening its involvement in global health advocacy by fostering partnerships with WHO and other relevant stakeholders. Furthermore, structured advocacy strategies, including leveraging social media, podcasts, and public engagement initiatives, will increase visibility and representation.

The WHO Executive Board meeting was a landmark event for WMA-JDN's advocacy in global health. Through strategic interventions, active participation, and high-level engagement, junior doctors can demonstrate their essential role in shaping international health policies. Moving forward, it is imperative that the voices of junior doctors continue to be amplified in global forums, ensuring a sustainable and equitable future for healthcare worldwide. Strengthening collaborative partnerships, mentoring emerging health leaders, and fostering effective advocacy will be key to advancing meaningful health reforms. By taking an active role in global health governance, junior doctors can help bridge the gap between policy and practice, ensuring that future healthcare systems are both resilient and inclusive.

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# Pandemic Preparedness Working Group Report

Marie-Claire Wangari,<sup>1</sup> Yassen Tcholakov<sup>2</sup>



<sup>1</sup> Marie-Claire Wangari  
Working Group Chair



<sup>2</sup> Yassen Tcholakov  
Working Group  
Co-Chair

## Introduction

The Pandemic Preparedness Working Group of the Junior Doctors Network (JDN) of the World Medical Association (WMA) has actively engaged in capacity-building and knowledge-sharing activities in the first quarter of the 2024/2025 term. This report outlines the key activities undertaken, including a webinar on Mpox and two working group meetings.

## Webinar: Understanding and Managing Mpox

- Date: Monday, December 16, 2024
- Time: 14:00-15:00 GMT
- Platform: Zoom
- Keynote Speaker: Prof. Kra Oufouët (Côte d'Ivoire)
- Description: This webinar provided a comprehensive overview of Mpox epidemiology, diagnosis, and management, with a particular focus on francophone regions and resource-limited settings. The session was conducted in French with real-time English translation to ensure inclusivity and accessibility for a broader audience.
- Key Outcomes: Participants gained insights into recent outbreaks, diagnostic challenges, and best practices for managing Mpox cases in resource-constrained environments.

## Working Group Meetings

The Pandemic Preparedness Working Group held two virtual meetings during the quarter to discuss ongoing initiatives and plan future activities:

### First Meeting (October, 2024)

- Reviewed the objectives and strategic goals for the term.
- Discussed priority areas, including pandemic response training and advocacy efforts.
- Initiated planning for the Mpox webinar.

### Second Meeting (February 2025)

- Discussed annual working plan ([Working plan for 2025](#)).

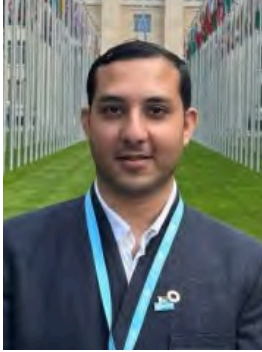
## Conclusion & Next Steps

The first quarter has set a strong foundation for the working group's activities by restarting to hold regular meetings and discussing working group plans with members and suggesting a working group agenda. Additionally, Wenzhen Zuo who was previously co-chairing the group with Marie-Claire Wangari retired from those functions while remaining a working group member, Yassen Tcholakov, who had had a supportive role to the co-chairs of the working group and a liaison role with the WMA secretariat took on the responsibilities of co-chairing alongside Marie-Claire. Moving forward, we will focus on strengthening collaborations, developing policy briefs on pandemic preparedness, and organizing additional capacity-building events.



# Empowering the Frontlines of PHC: A JDN Perspective

Dr Adeel Riaz,<sup>1</sup> Dr Eleleta Surafel<sup>2</sup>



<sup>1</sup> Dr Adeel Riaz  
PHC Working Group  
Co-Chair



<sup>2</sup> Dr Eleleta Surafel  
PHC Working Group  
Co-Chair

The Primary Health Care Working Group (PHC WG) of the Junior Doctors Network – World Medical Association (JDN-WMA) has made significant strides in empowering those working in PHC through advocacy, education, and collaboration. Over the past year, the WG has actively contributed to global and national discussions, facilitated learning exchanges, and spearheaded initiatives that amplify the role of junior doctors in strengthening PHC systems across the world.

## Key Achievements

### 1. Knowledge Exchange and Capacity Building

The PHC WG actively participated in the German Medical Association Young Physicians Forum, which focused on medical education, career progression, and care provision in primary care units. This engagement provided an opportunity to exchange best practices and north-south learning, and explore innovative strategies for enhancing PHC delivery.

To further knowledge-sharing, the group also hosts journal clubs, allowing members to showcase their research and facilitate discussions on key topics in PHC.

### 2. Advancing Discussions on Gender-Based Violence (GBV) in PHC

Recognizing the intersection between PHC and GBV, the WG organized the first-ever JDN focus group discussion on GBV in the context of primary care and junior doctors. This initiative shed light on the challenges faced by young physicians and patients alike, and highlighted the need for trauma-informed care within PHC settings.

### 3. Advocacy and Policy Contributions

The PHC WG has played an active role in policy discussions, contributing to key global health dialogues. These include:

- Statement contributions to the 156th WHO Executive Board (EB) and the Future of NCD Action, ensuring that the voices of junior doctors are represented in global health governance.
- A collaborative article on “PHC Approaches to Antimicrobial Resistance (AMR)”, published in the AMR special edition of the JDN newsletter, emphasizing the decisive role of PHC in combating AMR



Image 1: Focus Group Discussion on “Violence on Junior Doctors” by PHC Working Group

#### 4. Strengthening PHC in Humanitarian Crises and Disaster Response

During the biannual JDN meeting, the WG facilitated discussions on the role of junior doctors in humanitarian crises, showcasing frontline experiences on how PHC systems can be adapted to respond effectively to emergencies.

Additionally, the group engaged with the National Executive Council of the Nigerian Association of Resident Doctors, contributing to the discussions under the theme “Building Resilience and Strengthening Nigeria’s Healthcare System for Effective Disaster and Disease Management”, emphasizing the importance of PHC in crisis preparedness and response.

#### 5. Raising Awareness on PHC and Universal Health Coverage (UHC)

As part of its advocacy efforts, the PHC WG led a UHC Day campaign, reinforcing the role of PHC as the foundation for achieving Health for All. The campaign engaged junior doctors and key stakeholders in discussions on strengthening PHC to drive progress toward UHC.

Video: <https://www.instagram.com/reel/DDePDRNN-EC/?igsh=YXN5a294emhmMGNO>

The WG also hosted a webinar on the Surgical Accredited and Trained Healthcare Initiative (SATHI), followed by a published article summarizing key discussion points, lessons learned, and takeaways for broader dissemination.

#### Looking Ahead:

The PHC WG is gearing up for its upcoming engagement at the Africa Health Agenda International Conference (AHAIC) 2025, where it will contribute to discussions on UHC and socio-ecological determinants of health. This platform presents an opportunity to further advocate for PHC-centered health systems and the role of junior doctors in driving change.

#### Conclusion

The achievements of the WG highlight the commitment of junior doctors to strengthening PHC at both policy and practice levels. By supporting learning exchanges, advocating for policy change, and driving discussions on key healthcare challenges, the group continues to position PHC as a cornerstone of equitable and resilient health systems worldwide.

For more information on the PHC WG and how to get involved, stay connected with JDN-WMA at: <https://www.wma.net/junior-doctors/>

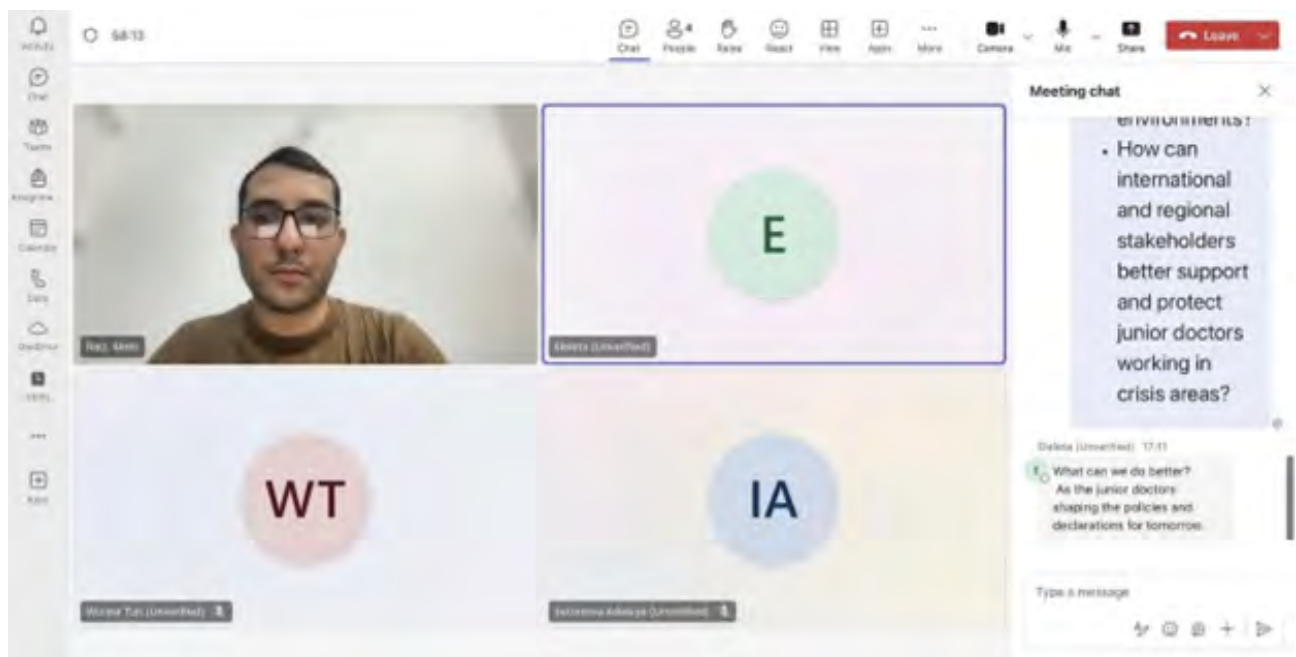


Image 2 : PHC Working Group Session - JDN Fall 2024 meeting



# From Opportunity to Setback: How the Reform of the Framework Statute for Healthcare Professions Threatens the Future of Spanish Junior Doctors

Juan Pablo Carrasco<sup>1</sup>, Domingo Antonio Sánchez,<sup>2</sup> Álvaro Cerame<sup>3</sup>



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<sup>3</sup> Álvaro Cerame,  
President of the  
European Junior  
Doctors Association,  
Madrid, Spain

The working conditions of junior doctors in Spain have long been a subject of concern, with excessive workloads, insufficient rest periods, and some of the lowest salaries in Western Europe(1). The recently proposed Framework Statute for Healthcare Personnel by the Ministry of Health, although it aims to be an opportunity for change and improvement for doctors in Spain, the published draft has caused significant distress and concern among the medical community(2). The current draft aims to update the previous version published in 2003(3), which regulates the majority of labor rights for healthcare personnel in Spain. Among other aspects, the Framework Statute establishes provisions on working hours, rest periods, remuneration, and the classification of healthcare professionals.

This reform comes at a critical time. Spain is already experiencing a medical workforce crisis, with increasing reports of physician burnout and an alarming trend of junior doctors seeking better conditions abroad, in the private sector and in other fields different from the clinical one(4). The lack of a long-term strategy to retain talent and improve working conditions risks further destabilizing the healthcare system, impacting both professionals and patient care quality. Regarding the issues most relevant to junior doctors, the **National Section of Junior Doctors of The Spanish Medical Council (Consejo General de Colegios de Médicos de España - CGCOM)** has identified the following as the most pressing concerns:

**1. Employment Restrictions:** One of the most contested provisions in the reform is the clause preventing junior doctors from working in both the public and private sectors for five years after completing their training. This measure severely limits career flexibility and may deter doctors from remaining in Spain. In contrast, international

policies promote physician autonomy as a key factor in professional satisfaction and retention(5).

**2. Excessive Working Hours:** Despite being an EU member state, Spain has repeatedly failed to enforce the European Working Time Directive (EWTd), which limits doctors' weekly working hours to 48. Many junior doctors routinely exceed this threshold, with shifts that surpass 24 consecutive hours. Studies have consistently linked excessive work hours with increased medical errors and higher burnout rates (1). The proposed draft fails to reduce the maximum working times, inadequately addressing the demands of junior doctors for a safer work-life balance.

**3. Insufficient Rest Periods:** There are no guarantees of adequate rest following 24-hour shifts, a situation that directly contradicts evidence-based recommendations for physician well-being. The proposed draft doesn't propose any kind of supervision mechanism of a repetitive problem that has been described widely in the literature(1). Lack of recovery time not only endangers doctors' health but also increases the risk of clinical mistakes, compromising patient safety.

**4. Low Salaries and Workforce Retention Issues:** Spanish junior doctors earn some of the lowest wages in Western Europe, making it increasingly difficult to retain talent. In consequence, low salaries force resident doctors to work extra hours and on-call shifts just to make ends meet, especially in cities like Madrid, Barcelona, Valencia, and Murcia. Competitive remuneration is a fundamental requirement to promote doctors quality of life and satisfaction, and maintain a high-quality healthcare system.

## A Call for Collective Action

In response to these worsening conditions, Spanish junior doctors have mobilized in an unprecedented movement. Furthermore, beyond the Spanish frontiers, the Junior Doctors Network (JDN) of the World Medical Association (WMA) has officially supported their demands, emphasizing the urgent need for reform to protect both professionals and patients. In a statement of support, the JDN recognizes the legitimacy of these concerns, reaffirming that collective advocacy is a fundamental right when working conditions deteriorate beyond acceptable limits.

As part of this movement, the Spanish Medical Union -alongside professional and scientific medical associations- have organized a national demonstration in Madrid on March 22, aiming to bring public and political attention to the crisis. Furthermore, a general strike has been called for May, marking a decisive moment in the fight for fair working conditions. Both actions have received the backing of junior doctors' associations and the CGCOM.

We call on the Spanish government to reconsider this reform and align it with international labor standards. The sustainability of Spain's healthcare system depends on ensuring junior doctors receive the support, compensation, and work-life balance necessary to provide safe and effective patient care.

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# Report of the JDN Participation to Represent WMA at the International Students One Health Conference

Dr Sazi Z Nzama,<sup>1</sup> Dr Balkiss Abdelmoula<sup>2</sup>



<sup>1</sup> Dr Sazi Z Nzama  
Secretary  
WMA JDN

The WMA-JDN was represented by Dr Sazi Z Nzama, JDN Secretary (in-person), and Dr Balkiss Abdelmoula, JDN Deputy Chairperson (online), at the International Students One Health Alliance (ISOHA) One Health Conference held in Muscat, Oman in January 2025.

Dr Nzama delivered a presentation on “Interconnecting Air, Water & Health – A Youth-Led one Health Approach” where he examined leading risk factors in the development of non-communicable diseases, their leading contributing factors, and clinical significance. For each of these, Dr Nzama then presented the WMA Statement on Water and Health and the WMA declaration on prevention and reduction of air pollution to improve air quality, their respective recommendations and the significance of these to both the junior and senior physician, globally.

Dr Abdelmoula, tackled in her presentation the “Intersection of Climate and Health in Postgraduate Medical Education”, highlighting identified gaps in postgraduate medical training, the relevance of climate change in health and the significance thereof together with proposed enhancement for curricula and practical strategies to integrate climate-health and advocacy into postgraduate medical training.

## The Role of JDN Representatives

During this two-day conference, JDN played a key role in advocating for public health matters of concern, chiefly air and water pollution and the growing effects of antimicrobial resistance in the modern world.

In this platform, the in-person JDN representative were one of two physicians working directly in Health advocacy in clinical medicine and public health. This proved to be beneficial in the room of

discussions as many other participants were expert researchers, thought leaders and health science students in the human and veterinary health field.

JDN representatives played a key role in advocating for the requirement for physicians to play an active role in health advocacy, the presence of JDN in the conference also garnered interest from aspiring physicians in the work of the WMA, the WMA-JDN and other health humanitarian organizations.

## Key Discussions undertaken

The conference also included sessions by Ms Nour Barnat from the United Nations Trade & Development, where striking data, regional and global statistics on the growth trend of the use of plastic and plastic by-products, among other environmental pollutants were highlighted.

Dr Salah Thabit Al Awaidy, Adviser on Communicable Disease Surveillance, Elimination and Eradication of Communicable Diseases of Public Health Importance to the Ministry of Health of the Sultanate of Oman broadened the understanding of Zoonotic diseases, their intersection with the human population and explored the various strategies and methods employed by the region and other global organizations in data gathering, surveillance and action in preventing and combating communicable diseases from Zoonotic vectors.

## Other key speakers included;

Dr Saleen Ummer, who focused on Interprofessional education and the importance of the inclusion of a one-health approach in medical education and individual practice.

Dr Federica Castellana (virtual), the Country delegate and project manager for the Italian Red Cross In Djibouti, who highlighted previous and ongoing research in health equity and dove deep into methodology and key findings into building sustainable and inclusive health systems.

Mr Hafidh Al Shukairi, a young mechatronics engineer, leading various climate change, human rights and youth leadership initiatives through an organization Madad for Development; a youth led organization co-founded by him. This inspiring Avionics engineer led an interactive ‘think-tank’ workshop where participants worked towards identifying one actionable solution to progress the Sustainable development goals related to the environment through a series of case vignettes. The outcomes demonstrated to participants the positive effects of multi-regional collaboration in addressing common occurring problems in different environments and the benefits of multilateral approaches in problem solving.

between the two entities can assist in disseminating JDN related campaigns, activities and other projects of relevance to this region which is still under-represented within the JDN by members currently residing in the region. Over time this can be leveraged and enhanced to strengthen and potentially develop a JDN in that region.

## Actionable Outcomes

### 1. Establish working relationship Between Planetary Health Working Group and UNCTAD

Establishing a relationship with the Trade and Development arm of the United Nations can be beneficial for junior doctors interested in planetary health research and surveillance. This may yield in future collaborations and or learnerships/internships for junior doctors.

### 2. Amplify Planetary Health Topics on JDN Channels

By raising awareness of planetary health related global concerns through the JDN, these critical but often dismissed topics of global concern become more visible to the junior doctor network in the world. Showcasing and highlighting statements and declarations of the WMA, and more specifically, those led by or developed with the inclusion of the JDN becomes a valuable brand-building method.

### 3. Establish working relationship with Madad Development

A good working relationship with NGOs in the middle east provides the opportunity for the JDN to increase its presence in the region. A working relationship



# Advancing Patient-Centred Care in Africa: Outcomes and Reflections from the 2nd Annual Patient-Centred Care Africa (APCCA) Conference

Dr. Denis Omondi,<sup>1</sup> Dr. Marie-Claire Wangari<sup>2</sup>



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## Introduction

The 2nd Annual Patient-Centred Care Africa (APCCA) Conference—held on February 6th and 7th, 2025, at Maseno University, Kisumu, Kenya marked a pivotal moment in our shared journey to transform healthcare systems across Africa. Under the theme “Achieving Universal Health Coverage Through Patient-Centred Care Approaches.” The event united healthcare professionals, students, policymakers, and researchers in robust dialogue and collaborative action to ensure that every patient’s voice is at the centre of care.

## About the Patient-Centred Care Movement Africa (PaCeM-Afro)

PaCeM-Afro is a dynamic, network of health care professionals committed to redefining healthcare by ensuring that patient needs, values, and preferences guide decision-making at every level. Its mission is to equip the next generation of health professionals in Africa with the skills and commitment necessary to deliver and advocate for patient-centred care, ensuring a transformative and sustainable impact on healthcare quality across the continent through three main objectives: Equipping healthcare workers under training with knowledge and skills to deliver patient-centred care, promoting research and innovation regarding patient-centred care and advocating for policy changes that support patient-centred care.

## Conference Overview and Objectives

The 2nd APCCA Conference was designed as a comprehensive forum to address the multifaceted challenges of integrating patient-centred care (PCC) into healthcare systems while striving toward UHC. The event featured sessions organized around seven core topics:

Each session provided attendees with deep insights into both the challenges and opportunities for embedding PCC in everyday healthcare practice.

## Key Session Insights and Outcomes

### 1. Community Health and Patient-Centred Care:

In his session, Professor Dan Kaseje stressed the essential role of community health workers (CHWs) in bridging the gap between healthcare systems and local communities. He noted, “Patients and relatives should be considered as active participants rather than passive recipients of medical care,” urging for healthcare models that integrate patients’ emotional, social, and mental needs. This session led to a consensus on expanding CHW programs and developing community-based initiatives to drive patient engagement and improve treatment outcomes.

### 2. Telemedicine and Digital Health Solutions:

A particularly compelling session focused on telemedicine, where panellists discussed its transformative potential in expanding healthcare access in underserved regions. Dr. David Muganzi remarked, “Telemedicine is not just about big apps and complex platforms—it starts with a simple phone call.” This quote resonated strongly with the audience, underscoring that even small technological interventions can have a profound impact on patient care. The panel further emphasized that “Data is the new oil. Telemedicine platforms must leverage it for better patient care,” highlighting the importance of digital innovation. Despite challenges such as limited infrastructure, digital literacy, and regulatory hurdles, speakers advocated for enhanced investment in digital tools, comprehensive training programs, and robust data security measures.

### 3. Ethical and Legal Considerations:

The session on ethical and legal issues featured a robust discussion on the balance

between safeguarding patient rights and meeting healthcare demands. The speakers addressed key topics including informed consent, data protection, and patient autonomy. The address underscored that while strong ethical frameworks are necessary to protect patients, they must be flexible enough to adapt to evolving healthcare landscapes. This session set the stage for developing standardized guidelines that integrate ethical considerations into patient care policies.

#### 4. Continuous Quality Improvement (CQI):

The CQI session explored methods for monitoring and enhancing the quality of patient-centred care. Participants discussed tools such as the Plan-Do-Study-Act (PDSA) cycle and Lean methodologies. Dr. Diana Abuodha noted, “Continuous quality improvement is not a one-time effort—it is an ongoing process that ensures we never settle for anything less than the best for our patients.” Attendees left with actionable strategies aimed at increasing patient safety and care effectiveness, emphasizing that regular evaluation is key to sustaining high-quality healthcare services.

#### 5. Healthcare Financing:

Healthcare financing emerged as one of the most impactful sessions of the conference. In his presentation, Mr. Joshua Okise highlighted that Africa, despite bearing over 24% of the global disease burden, invests less than 1% in healthcare. He explained that the heavy reliance on out-of-pocket expenditures—22.77% in Kenya, for example—combined with the withdrawal of donor funding, has severely strained healthcare delivery. The panel discussion further examined innovative financing models. Dr. David Muganzi presented an inspiring case study of a Ugandan district that implemented a community-based health insurance model with 60% participation, while Dr. Marie-Claire Wangari detailed Kenya’s transition from NHIF to the Social Health Account (SHA) model, emphasizing the importance of diversified funding sources and strong leadership. The session underscored that achieving UHC requires reimagining financing strategies to ensure that quality, patient-centred care remains affordable and accessible.

between the two entities can assist in disseminating JDN related campaigns, activities and other projects of relevance to this region which is still under-represented within the JDN by members currently residing in the region. Over time this can be leveraged and enhanced to strengthen and potentially develop a JDN in that region.



*Image 1: Healthcare Financing Panel at the 2nd Annual Patient-Centred Care Africa (APCCA) Conference*

#### 6. Interprofessional Collaboration

The panel on interprofessional collaboration underscored the importance of teamwork in delivering holistic patient care. Dr. Neto Obala stated, “A patient is not just a diagnosis; they have unique needs that require a team approach.” Dr. Maureen Muchela, added, “Collaboration begins with understanding each other’s expertise and respecting every professional’s role.” These insights reinforced that effective communication and interdisciplinary teamwork are essential for optimizing patient outcomes and ensuring that care remains truly patient-centred.

#### 7. Culturally Sensitive Care

Recognizing the diversity of African cultures, the session on culturally sensitive care emphasized the need for healthcare providers to adopt culturally competent practices. The speakers discussed overcoming language barriers and adapting care to respect the values, beliefs, and traditions of diverse communities. They underscored that culturally sensitive care is a cornerstone of equitable healthcare and is essential for the success of UHC initiatives.

## Collective Lessons and Future Directions

One resounding message from the conference was the importance of collective action. Achieving patient-centred care—and by extension, Universal Health Coverage—requires the active collaboration of healthcare providers, academic institutions, policymakers, and communities. As highlighted throughout the sessions, while patient centred care is recognized as crucial, it remains under-researched. This gap offers an opportunity: by investing in robust research and forging stronger partnerships, we can build a solid evidence base to inform policy and drive sustainable change.

## Conclusion

The 2nd Annual APCCA Conference was a landmark event that not only showcased the transformative potential of patient-centred care but also set a clear roadmap for the future of healthcare in Africa. Through dynamic sessions, inspiring keynotes, and actionable panel discussions, the organization moved one step closer to realizing a healthcare system where every patient's needs and values are prioritized.



*Image 2: Attendees of the 2nd Annual Patient-Centred Care Africa (APCCA) Conference*



# Why Medical Certification of Cause of Death Matters?: Investing in Cause-of-Death Certification to Build Stronger Civil Registration and Vital Statistics Systems

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## Abstract

**Background:** Civil Registration and Vital Statistics (CRVS) systems are critical for policy, planning, and governance. However, fewer than one in three deaths globally are registered with a medically certified cause. Medical Certification of Cause of Death (MCCD) is essential for accurate mortality surveillance and evidence-based decision-making.

**Objective:** This review explores the role of MCCD in strengthening CRVS systems and presents the case for viewing it as a strategic public health investment.

**Methods:** A systematic literature review was conducted across four databases, identifying global studies, reports, and evaluations on MCCD and its impact on CRVS quality and system integration.

**Results:** MCCD improves data quality, informs targeted health policy, enables legal benefits, and enhances system efficiency. Countries investing in MCCD have demonstrated significant returns, including better governance, digital innovation, and improved health outcomes. Training, intersectoral collaboration, and digital platforms further amplified these benefits.

**Conclusion:** MCCD is not only a technical necessity but a high-return investment in national development. Strengthening MCCD within CRVS systems is foundational for achieving Sustainable Development Goals and building resilient, data-driven governance.

## Introduction

In the evolving landscape of global health, reliable data systems are the foundation for policy formulation, program implementation, and governance accountability. Civil Registration and Vital Statistics (CRVS) systems are the primary source of continuous, compulsory, and universal data on vital events such as births and deaths. Among the critical components of CRVS, the Medical Certification of Cause of Death (MCCD) stands out for its unique role in translating individual-level mortality events into actionable public health intelligence.

Globally, however, the quality and completeness of cause-of-death data remain limited. According to the World Health Organization, fewer than one in three deaths are medically certified with an accurate cause of death, and many countries still rely heavily on estimations or verbal autopsies (1). This data deficit undermines national capacities to detect disease trends, plan health programs, and evaluate outcomes.

The United Nations Legal Identity Agenda and WHO's SCORE framework emphasize the integration of MCCD into national CRVS strengthening strategies to achieve Sustainable Development Goals (SDGs) and Universal Health Coverage (UHC) (2,3). However, achieving this vision requires not only technical reforms but also targeted investments. MCCD should be seen as a strategic enabler for public health planning, economic forecasting, and social protection systems.

This review explores the role of MCCD in strengthening CRVS systems, with particular emphasis on its potential as a high-return investment. We examine global evidence on its impact on mortality data quality, policy-making, administrative services, and digital integration. In doing so, we highlight that investing in MCCD is not only about improving statistics—it is about enabling equitable, evidence-driven governance for the future.

MCCD refers to the process by which a medically trained professional determines and certifies the underlying cause of death using the International Classification of Diseases (ICD) framework. Despite its importance, many countries face challenges in implementing and sustaining robust MCCD systems. Incomplete or poor-quality certification often leads to inaccurate mortality statistics, hindering effective policy responses and obscuring true health burdens.

This analysis aims to evaluate the global evidence on the role of MCCD in strengthening CRVS systems, with a focus on its impact on data quality, health policy, system integration, and governance.

## Methods

### Literature Search Strategy

We conducted a comprehensive literature search using four major databases: PubMed, Scopus, Web of Science, and Google Scholar. The search covered articles published between January 2000 and January 2024. Keywords and MeSH terms included: "Medical Certification of Cause of Death," "MCCD," "death registration," "civil registration and vital statistics," "mortality data," and "health policy."

### Inclusion and Exclusion Criteria

To ensure relevance and rigor, the inclusion criteria for this review required that studies be published in English and focus specifically on the role of Medical Certification of Cause of Death (MCCD) in strengthening Civil Registration and Vital Statistics (CRVS) systems.

Eligible sources included peer-reviewed empirical research, systematic reviews, and literature from United Nation agencies, World Health Organization (WHO), multinational and bilateral agencies and national ministries. Studies that did not meet these standards were excluded, including those published in languages other than English, opinion pieces lacking empirical support, and articles addressing topics unrelated to death registration, such as those focusing solely on birth registration.

### Data Extraction and Synthesis

Relevant data were extracted using a standardized form that captured study design, geographic focus, outcomes related to MCCD and CRVS, interventions implemented, and key challenges. A narrative synthesis was used to analyse findings due to the heterogeneity in study design and outcomes.

## Results

Strong evidence from multiple global contexts illustrates how investing in MCCD yields wide-reaching improvements in the quality, usability, and impact of CRVS systems. This section summarizes key domains where MCCD contributes tangible results, providing a basis for understanding why MCCD is not just a clinical necessity but a national investment priority.

These results are organized across five major themes:

### Enhancing the Quality of Mortality Data:

MCCD significantly improves the quality and specificity of mortality statistics. WHO-supported pilot interventions in Sri Lanka and the Philippines demonstrated a substantial decline in the proportion of deaths coded under "garbage codes" following physician training in ICD-compliant death certification –by over 40% within two years (1,2). Similarly, Brazil's mandate for MCCD led to over 90% of deaths being medically certified, resulting in highly detailed and usable mortality statistics (3).

In contrast, many LMICs still rely on verbal autopsies or have underreporting of deaths, particularly in rural areas. This results in large data gaps, reduces international comparability, and leads to health policies being based on approximations rather than evidence (4).

### Driving Evidence-Based Public Health Policy

Countries that have invested in MCCD have seen tangible returns in more responsive and targeted health policy-making. In Thailand, cause-of-death data helped identify an increasing burden of non-communicable diseases (NCDs), prompting major health financing reforms (5). In South Africa, improvements in COD data enabled better evaluation of HIV interventions and mortality surveillance (6).

India's experience demonstrates how subnational investments in MCCD improve maternal health tracking, allowing interventions like targeted maternal benefit schemes and the distribution of health kits (7).

### Strengthening Legal Rights and Service Delivery

Beyond the health sector, MCCD improves access to legal documentation and government services. In Bangladesh, MCCD-linked registration reforms led to a 28% increase in timely death registration, enabling citizens to claim benefits and legal entitlements more effectively (8).

## Strengthening Legal Rights and Service Delivery

Beyond the health sector, MCCD improves access to legal documentation and government services. In Bangladesh, MCCD-linked registration reforms led to a 28% increase in timely death registration, enabling citizens to claim benefits and legal entitlements more effectively (8).

In crisis situations—such as the Ebola outbreak—MCCD helped in managing humanitarian responses by providing timely, disaggregated mortality data. It allowed for quicker resource allocation and more coordinated international support (9).

## Accelerating Digital Transformation of CRVS

Digitizing MCCD processes enhances data quality and integration. Rwanda and the Philippines implemented real-time electronic certification systems that connected hospitals with national CRVS databases, reducing data delays and errors (10). India's Aadhaar-linked CRVS platform is now enabling automated certification and streamlining the flow of data into health and statistical systems (11).

These digital innovations not only improve efficiency but also reduce the long-term costs of maintaining paper-based systems, making them attractive from an investment standpoint.

## Building Sustainable Capacity and Governance

One of the key barriers to accurate MCCD is the lack of training among certifying physicians. Studies from Kenya, Nepal, and Cambodia show that incorrect completion of death certificates is widespread, reducing data reliability (12). Countries using the University of Melbourne's ANACONDA tool to assess and improve certification quality have reported fewer errors and more actionable mortality data (13).

Sustaining this progress requires institutionalized training, certification audits, and policy incentives. Effective governance, combined with multi-sectoral coordination, ensures MCCD becomes a standard, integrated component of health systems.

These findings underscore that strengthening MCCD not only produces better data but unlocks system-wide improvements in public health, legal

documentation, crisis response, and administrative governance. Investing in MCCD is a high-yield approach that brings value across sectors and across time.

## Discussion

The evidence is unequivocal. The review reaffirms that Medical Certification of Cause of Death (MCCD) is a strategic investment that enables nations to govern smarter, spend better, and deliver more equitable public services. Its benefits span beyond data collection—affecting health, law, economics, and social development.

When countries invest in MCCD, they do more than improve mortality reporting—they unlock precise, real-time data that enables efficient resource allocation, early identification of health threats, and more targeted delivery of programs. India, Thailand, and South Africa offer concrete examples where MCCD-led reforms translated into fiscal savings and measurable improvements in maternal health, NCD surveillance, and crisis response (5–7,14).

Yet the full potential of MCCD can only be realized when supported by digital systems, legal mandates, and consistent physician training. It does not operate in isolation. Its effectiveness is closely tied to how well it is integrated into digital infrastructure, supported by skilled personnel, and embedded in institutional frameworks. Interoperability with health information systems, alignment with national ID and social protection databases, and strong legal mandates are crucial for maximizing its impact. Fragmented implementation, lack of interoperability, and insufficient accountability continue to hinder scale-up in many LMICs.

Moving forward, countries must embed MCCD into national health and governance priorities. This means allocating sustained funding, aligning digital health strategies, and promoting cross-sector integration—from statistics and justice to civil registration and health ministries.

Viewed through an investment lens, MCCD offers measurable returns in reducing health misallocations, enhancing surveillance, and enabling smarter governance. It allows governments to pivot from reactive crisis management to proactive health system planning. The case for investment is not only evidence-based but also ethically grounded, ensuring that every life—and death—is counted, valued, and learned from. Investing in MCCD is not just sound policy—it's smart economics.

Beyond the five commonly recognized areas of impact—data quality, health policy, legal empowerment, digital transformation, and cost-efficiency—MCCD investment yields broader, cross-sectoral benefits. These include advancing human rights and social inclusion by ensuring that all deaths are legally recognized and documented; enhancing disaster preparedness and response by enabling timely mortality surveillance during crises; strengthening epidemiological intelligence for disease forecasting; facilitating the efficiency of

social protection systems such as insurance and pension schemes; and supporting Sustainable Development Goal (SDG) monitoring through reliable, disaggregated mortality data.

As countries aim for Universal Health Coverage (UHC) and the Sustainable Development Goals (SDGs), robust investment in MCCD will be vital for achieving inclusive, accountable, and data-driven development. Making every death count is not only a moral obligation—it is a high-impact investment in the future.

<b>Domain</b>	<b>Description</b>
1. Data Quality	Enhances accuracy and completeness of mortality statistics by reducing ill-defined and misclassified causes of death.
2. Health Policy Impact	Enables targeted, evidence-based planning and evaluation of national and subnational health programs.
3. Legal Empowerment	Supports issuance of legal documentation needed for inheritance, pension claims, and social protection entitlements.
4. Digital Integration	Facilitates automation and linkage of civil registration with health and identity management systems.
5. Cost Efficiency	Improves administrative effectiveness, reduces duplication, and ensures better allocation of public health resources.
6. Human Rights & Inclusion	Upholds the right to legal identity and ensures every death is counted, including those of marginalized groups.
7. Disaster Response	Enables timely tracking of excess mortality during emergencies and guides resource mobilization.
8. Epidemiological Intelligence	Strengthens surveillance systems and supports disease trend analysis and forecasting.
9. Social Protection Systems	Facilitates eligibility verification and fraud prevention in life insurance, pensions, and welfare schemes.
10. SDG Monitoring	Provides vital disaggregated data for tracking Sustainable Development Goal indicators and progress.

**Table 1 : Ten Domains of Return on Investment in MCCD**

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# Physician Burnout: A Global Perspective and an Urgent call for action

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Burnout syndrome is the psychological state that emerges as a consequence of excessive pressure at work; it manifests in the form of emotional exhaustion, depersonalization, and reduced personal accomplishment. The World Health Organization states burnout to be "a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed" [1]. Occupational factors make physicians the most susceptible with different global percentages: United States (50-54%), United Kingdom (40-45%), China (66.5-87.8%), and India (45-55%) [2,3]. Younger doctors under 40 years old report the highest burnout rates (60%), while female physicians experience more emotional exhaustion (55-65%) than males (45-55%) [4]. Specialties like emergency medicine (65%), anesthesiology (60%), and critical care (58%) see the highest burnout levels. Rural doctors report slightly higher burnout rates (55-65%) than urban counterparts (50-60%) due to increased workload and resource limitations [5].

Burnout negatively impacts patient care, medical errors, absenteeism, and turnover. Long working hours, understaffing, and poor mental health support are significant contributors to physician burnout in India. Studies indicate that more than 50% of Indian doctors experience work-related stress, with 30-40% reporting symptoms of anxiety and depression [6]. Limited access to mental health resources and the stigma surrounding psychological support prevents many from seeking help [3]. Fig 1 has analyzed the etiological perspective of burnout among doctors. [7]

Demographic trends reveal variations in burnout prevalence based on several factors. Senior doctors above 50 report lower burnout rates (30-40%), possibly due to better coping mechanisms and career stability [2]. Doctors working in private hospitals experience slightly lower burnout (40-50%) than those in government

hospitals (55-65%) [6]. Where workload and administrative pressures are higher. Additionally, married doctors report lower emotional exhaustion (45%) than their unmarried counterparts (55%), likely due to social support. Physicians undergoing therapy or psychological counseling report lower burnout levels (30-40%) than those without support (55-65%) [4]. Specialists in high-stress fields report higher rates of burnout and depression than general practitioners. The prevalence of burnout is, in fact, very high among doctors who do not have access to structured mental health programs, and this calls for the need for workplace reforms like counseling services, stress management training, and policy interventions to enhance physician well-being [4].

Burnout and depression among physicians and surgeons stem from complex, interrelated factors that impact both their professional and personal lives. A 2018 Medscape survey revealed that 56% of physicians attributed their burnout to excessive clerical work, making many feel more like typists than healthcare providers [8]. The demanding workload, exacerbated by understaffing and skill shortages, forces doctors to endure long hours, disrupting their work-life balance and resulting in chronic stress, fatigue, and neglected self-care [8]. As the saying goes, "Doctors dedicate their lives to caring for others, yet they often neglect their well-being" [8]. This lack of time for social interactions and personal relationships can lead to feelings of loneliness and depression, further compromising their mental health. Workplace dynamics, including conflicts, competition, and toxic environments, can stifle professional growth and contribute to emotional exhaustion. Additionally, inadequate compensation and limited clinical autonomy can leave physicians feeling unrecognized for their hard work [7]. Research indicates that younger surgeons of the female gender, single individuals, and

those with neurotic personalities are particularly vulnerable to burnout, especially during the demanding early years of surgical residency [9]. Public health crises, such as the COVID-19 pandemic, have intensified stress levels as doctors grapple with the fear of exposing themselves and their families to life-threatening illnesses. In developing countries like Mauritius, junior doctors also encounter challenges, including limited opportunities for specialization and restricted access to research and professional development. These factors often contribute to a feeling of stagnation in their careers and ultimately contribute to depression and burnout.

It is important to work on the factors causing doctors' burnout. The hospital management should take the key steps in this procedure. The Sustainable Development Goals (SDGs) have also focused on Good Health and Quality Education. Both states can only be achieved through good mental health. In this article, we have recommended some ways to improve doctors' mental health.

Several scales are present to score mental health. Every doctor should fill in that score monthly, and proper intervention should be taken based on that score. Routine psychologist counseling is mandatory. Hospitals should give their people a vacation to enhance their mental health. Also, an adequate amount of doctors and staff should be hired. A friendly environment should be incorporated inside the hospital, and regular workshops on "breaking bad news" should be conducted. Doctors should get some resting time in between their hectic schedules. A well-managed cafeteria and a gym can be incorporated. There is a connection between exercise and reduction of anxiety [10]. All doctor's duty rooms should have proper shower facilities so that doctors can take good showers to reduce stress. A "debriefing room or crying room" should be prepared where doctors and other staff can outburst his or her emotions. Mental health is a key aspect of health. A friendly and supportive environment can control the situation.

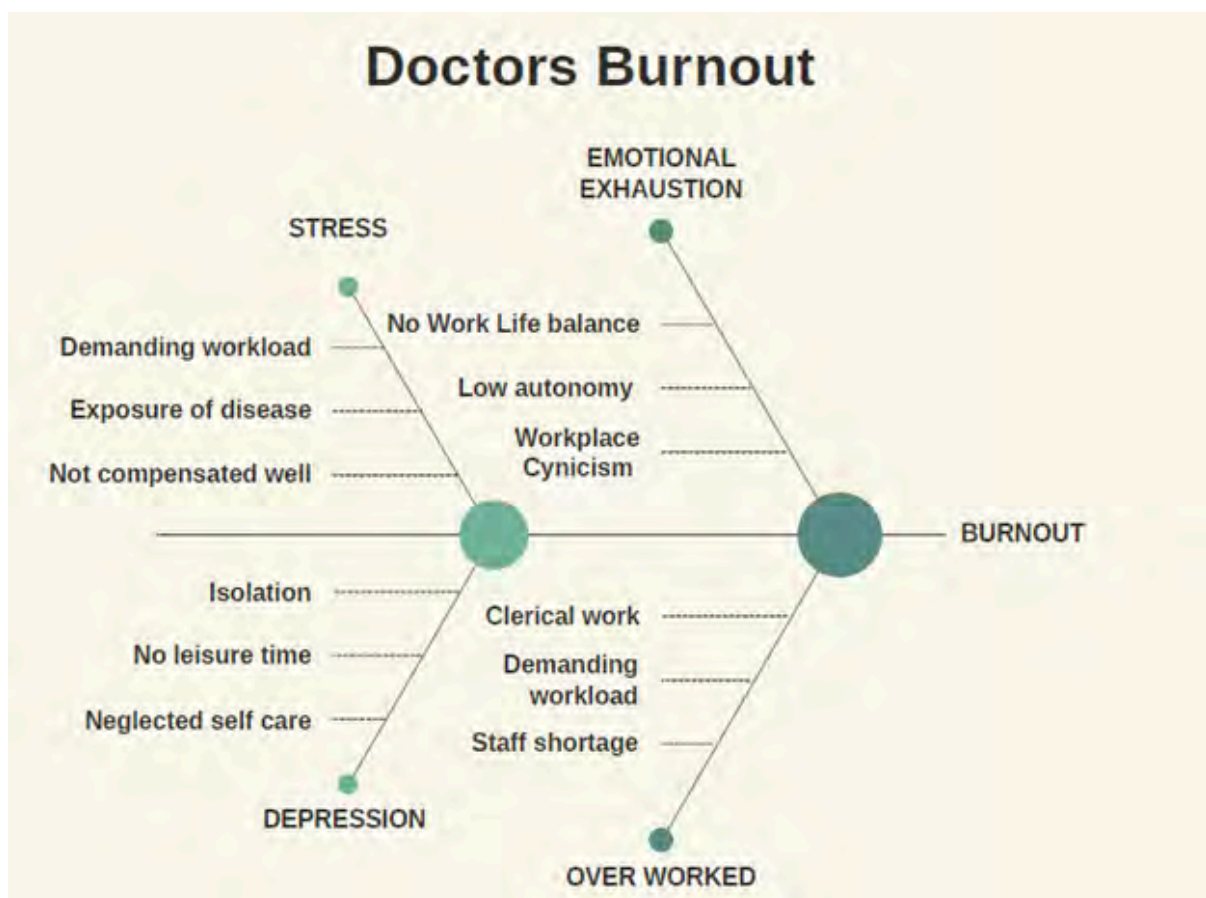


Fig. 1: Cause based analysis, why doctors are depressed and facing burn out [8]

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# Climate Change and Its Impact on Infectious Diseases

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## Abstract

Climate change affects human health dramatically, particularly through infectious diseases. Rising temperatures, changed precipitation patterns, and extreme weather events alter the dynamics of disease transmission and burden. This article delves into the relationships between climate change and vector-borne, waterborne, and zoonotic diseases, with an emphasis on the urgency of global action.

## Introduction

Climate change poses a major challenge to global health, as it amplifies the spread and impact of infectious diseases. Changes in the environment impact vectors, pathogens, and hosts. Resulting diseases appear in locations where the disease did not earlier. It is estimated that due to climate change, between 2030 and 2050, 250,000 extra deaths per year may be caused by malaria, diarrhea, and heat stress (4) under the WHO. This expert opinion writes about climate change and its influence on infectious diseases, thus suggesting some ways that can be taken to mitigate these issues.

## Impact of Climate Change on Infectious Diseases:

### 1. Vector-Borne Diseases

High temperatures and longer duration of warm season, expanded the range of vectors - mosquitoes and ticks. The dengue transmitting mosquito *Aedes aegypti*, has its range is expanding. As from 2050, moderate climate scenarios have forecast an expansion of the population at risk by 20% (1). Through 2019, Lyme disease has increased more than two fold, reaching more than 30,000 reported cases, up from 12,801 reported from 1997 (1).

### 2. Water-Borne Diseases

Altered precipitation and flooding contaminate water supplies, spreading diseases like cholera. *Vibrio* species thrive in warm, brackish waters, increasing outbreaks with rising sea temperatures. Cholera affects 1.3 to 4 million people annually, with over

140,000 deaths (2). Cholera outbreaks in sub-Saharan Africa often correlate with El Niño events (2).

### 3. Zoonotic Diseases

Climate-induced habitat changes increase human-animal interactions, leading to zoonotic disease spillovers. Outbreaks of Nipah and hantavirus have been related to disruptions in ecology. In Siberia, thawing permafrost released dormant anthrax spores, causing outbreaks in 2016 (3). Moreover, deforestation and shifting animal migration patterns are some of the factors that contribute to outbreaks of zoonotic diseases such as Ebola (4).

## Challenges in Managing Climate-Driven Disease Dynamics:

### 1. Surveillance and Monitoring

Detection systems in low-resource settings are crucial but underfunded where climate change effects are most severe.

### 2. Healthcare Infrastructure

The rising disease burdens overwhelm fragile healthcare systems. The resurgence of malaria in sub-Saharan Africa underscores the poor access to treatment and prevention.

### 3. Global Health Inequities

Low-income populations bear disproportionately large climate-sensitive disease burdens. This calls for global cooperation and funding.

## Mitigation and Adaptation Strategies:

### 1. Strengthening Public Health Systems

This requires strong disease surveillance, vector control, and health infrastructure to prevent climate-sensitive diseases. According to the WHO, investments in early warning systems can save thousands of lives annually (4).

### 2. Climate-Resilient Healthcare

The integration of climate adaptation strategies, such as early warning systems and community interventions, into public health policies is required.

### 3. International Cooperation

Cross-border partnerships have to be encouraged in order to combat transnational climate-driven disease challenges. In this regard, the WHO and CDC are also crucial in advancing research and implementation of disease control programs (5).

## Conclusion

Climate change is reconfiguring the landscape of infectious diseases and poses a looming threat to global health. It demands immediate adaptive strategies, increased surveillance, and international cooperation to reduce these effects and protect public health. Proactive steps, through evidence-based scientific research and global collaboration, could minimize the looming threats from climate-sensitive diseases.

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# Catalysts of Change - Empowering Youth to Combat Antimicrobial Resistance

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## Introduction

Antimicrobial resistance (AMR) poses a critical challenge to modern medicine, fundamentally undermining our ability to treat infectious diseases effectively (1). Antimicrobials, including antibiotics, antivirals, antifungals, and antiparasitics, are essential for preventing and treating infections in humans, animals, and plants. However, pathogens can evolve over time, leading to resistance against these antimicrobials. This natural evolutionary process is drastically accelerated by the overuse and misuse of antimicrobials, rendering conventional treatments ineffective. As a result, infections become increasingly difficult to manage, escalating the risks of disease spread, severe illness, and mortality.

## Global Burden of AMR

Antimicrobial resistance presents a major threat to global health, contributing to increased mortality and morbidity rates. The World Health Organization (WHO) has declared AMR a "silent pandemic," emphasizing the critical need to tackle this issue (2). AMR poses a worldwide threat, with drug-resistant diseases claiming the lives of 4.95 million individuals in 2019, of which 1.27 million deaths were directly related to AMR (3). AMR adds to significant costs, for both health systems and national economies, posing a problem for all countries at all income levels. AMR creates the need for more expensive and intensive care, and affects the productivity of patients and caregivers through prolonged hospital stays.

## Need for Youth Engagement

The World Health Organization has spearheaded several initiatives to combat AMR, including the Global Action Plan on AMR, the Global Antimicrobial Resistance and Use Surveillance System (GLASS), and the Global Leaders Group on AMR, in

collaboration with the Quadripartite consisting of the Food and Agriculture Organization, the United Nations Environment Programme, and the World Organisation for Animal Health. Despite numerous global efforts to tackle AMR, it remains a daunting and escalating threat to public health worldwide. However, there is a significant, yet underutilized resource that could play a pivotal role in this battle—the youth. Young people, particularly budding healthcare professionals, hold immense potential to act as catalysts of change in the fight against AMR.

## Challenges in Engaging Youth

Engaging youth in the fight against AMR poses significant challenges, largely stemming from a lack of awareness and education about AMR at early educational levels. Young individuals often do not perceive AMR as an immediate concern compared to more visible global issues, which can lead to apathy or a lack of engagement. Moreover, there is a gap in opportunities for young people to actively participate in meaningful AMR initiatives, as many existing programs are targeted toward professionals. Financial constraints and limited access to platforms where they can express their views and contribute to policy-making further hinder their involvement. Additionally, the complexity of AMR, which spans health, agricultural, and environmental sectors, can be daunting for youth lacking specialized knowledge, making it challenging to grasp how they can make a tangible impact. These barriers emphasize the need for comprehensive strategies that not only educate but also actively involve youth in AMR mitigation through accessible, engaging, and impactful initiatives.

## Youth Engagement Strategies

To effectively engage youth in the fight against AMR, a multifaceted approach that spans education, advocacy, and governance is essential. Antimicrobial stewardship programs can be tailored for young professionals, incorporating peer support and mentorship to identify and nurture youth champions who lead by example. In governance and policy, incorporating youth representation within AMR decision-making bodies and providing policy training programs can empower young voices in shaping future frameworks. These efforts should be supported by networking and cross-learning platforms that facilitate global connections among young professionals. On the research front, involving youth in cutting-edge AMR research can enhance their technical acumen while facilitating a deep understanding of resistance mechanisms. Advocacy and awareness efforts can be amplified through digital campaigns and strategic AMR communication, tailored to resonate with and mobilize the younger demographic. Community engagement initiatives can involve youth in designing and implementing AMR mitigation interventions that are context and country-specific, ensuring relevance across diverse environments. Education and training programs, aimed specifically at young learners, can integrate AMR into curricula from an early stage, while AMR innovation competitions, recognition programs, scholarships, and fellowships can incentivize and acknowledge the contributions of young individuals to the AMR field. Through these strategies, youth can be transformed into proactive agents of change, armed with the knowledge and skills to tackle AMR from local to global levels.

## Conclusion

Several initiatives, such as the Quadripartite's Working Group on Youth Engagement for AMR (4), the National Alliance of Medical Professionals on AMR (NAMP AMR) by the Indian Medical Association (5), and the Commonwealth Alliance of Medical Professionals on AMR (CAMP AMR) by the Commonwealth Medical Association are already paving the way for youth involvement in AMR. These efforts highlight the immense potential of young individuals as powerful advocates, innovators, and leaders in the fight against AMR. Youth possess the dynamism and fresh perspectives necessary to drive significant advancements in this field. However, to fully harness this potential, it is crucial to develop effective strategies that address the challenges.

By crafting educational and participatory opportunities that are both accessible and impactful, we can empower the next generation to take a stand against AMR. As we move forward, let us commit to integrating and elevating the role of youth in our global AMR strategies, ensuring they have the tools and platforms needed to contribute their unique insights and energies.

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# Healing Legacy Hindered – a Peek into Antimicrobial Resistance.

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When Alexander Fleming discovered in 1928, that a mould developing on a petri dish prevented the bacteria from growing, he was about to bring forth the ‘miracle drug’, Penicillin, that would fight against a multitude of infectious diseases which could have killed people in the years to come. Years later, in 1945, Penicillin was introduced into large-scale production and thus began the golden era of antibiotics. But Fleming warned us about the dangers of taking penicillin in less than the required doses and the potential for developing resistant organisms. And the warning became true(1).

Hence, the problem of resistance began as antimicrobials were introduced into medicine, agriculture, and animal husbandry, and organisms evolved stronger with the introduction of newer and advanced antibiotics. Even if I, as an individual, use antimicrobials with discretion, I may not be able to fully eliminate the risk of AMR, since it may creep in through the food I consume. AMR has been recognized as a top global public health and development threat, with adverse implications for food security, health and economy; and as usual, the low- and middle-income countries bear the brunt of the burden. Therefore, concerted, multisectoral and international efforts are required to tackle this issue.

There are several ongoing efforts by various agencies to understand and navigate through this crisis, including research, surveillance, policy changes, education and technological innovations. WHO’s Global Antimicrobial Resistance Surveillance System (GLASS) tracks resistance patterns across countries. The WHO AWARE Antibiotic Handbook provides evidence-based guidance on antibiotic usage. Multiple clinical trials are being conducted to investigate novel therapeutic options like new antibiotic compounds, rapid diagnostic technologies, alternative treatment modalities, bacteriophage therapy, etc.

National policies and action plans are being formulated on antibiotic stewardship programs, healthcare-associated infection prevention, improved surveillance systems, and regulated antibiotic use in agriculture. Hospitals are bringing out their antibiotic administration protocols. NGOs and medical organizations, including the World Medical Association's Junior Doctors Network, are actively engaging healthcare professionals through special publications and newsletters, educational workshops and webinars, research collaboration platforms and knowledge-sharing networks. Other areas of work include innovations in technology like AI-powered resistance prediction tools, CRISPR-Cas technology to target and eliminate antibiotic resistance genes, and novel drug delivery systems through nanotechnology solutions(2-4).

A One Health Approach has been advocated to consider and implement people-centric, animal and environmental health focussed interventions to reduce this silent threat(3). A raised awareness among stakeholders, one health approach, commitment and collaboration at multiple levels, supported by innovative technologies offer the best way forward in addressing AMR.

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# India's Multi-Sectoral Approach against Antimicrobial Resistance

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On November 21st, 2023, the World Health Organization (WHO) stated Antimicrobial resistance (AMR) as the top global public health threat and estimated 1.27 million global deaths in 2019. India alone estimated 1.04 million deaths associated with it in 2019, with a forecast of 10 million deaths per year globally by 2050 if not addressed. In March 2022, the United Nations General Assembly passed a resolution to conduct a High-level meeting in collaboration with the Quadripartite Organizations[1]. In India, the infectious disease burden is among the highest in the world, and a recent report showed that factors such as poverty, illiteracy, overcrowding, and malnutrition further compound the situation. Although the government of India is actively working to address this challenge with its National Action Plan on AMR (NAP-AMR), significant gaps still need to be filled[2]. We aim to highlight the initiatives taken in India by various stakeholders, which are crucial to reducing AMR by penetrating deeper into India's diverse healthcare landscape and raising awareness of the young population.

## Government Initiatives

In August 2023, under India's G20 Presidency, countries acknowledged the urgent need to address AMR and the importance of international collaborations. Previously, in 2017, the Ministry of Health & Family Welfare (MoHFW) launched the National Action Plan on AMR (NAP-AMR), which was developed in alignment with the Global Action Plan on AMR and aimed to contain AMR through a multi-sectoral approach. Recently, MoHFW proposed NAP-AMR 2.0 in 2022 and launched the Red Line campaign, which, according to which it is advised not to use antibiotics marked with a red vertical line without a prescription. On November 20th, 2024, India officially launched Nafithromycin (marketed as "Miqnaf") to combat drug-resistant pneumonia[2].

## Role of Artificial Intelligence (AI) and Machine Learning (ML)

AI-powered systems are also used for drug development, analyzing clinical data, and enabling better clinical decision-making. On October 22nd, 2015, WHO launched the Global AMR and Use Surveillance System (GLASS), the first global collaborative effort to standardize AMR surveillance. Similarly, the Asia-Pacific AMR network fostered collaboration, driving the role of technology-driven solutions combating AMR challenges among Asia-Pacific countries[1]. MoHFW launched Genome India to understand the genomic diversity of the Indian population and combat AMR. The Indian Council of Medical Research directly, in collaboration with private agencies and government institutions, developed AMRSense, an AI-based, evidence-based health data ecosystem for AMR surveillance[2,3].

## Role of Medical Associations & Student-Led Organizations

AI-powered systems are also used for drug development, analyzing clinical data, and enabling better clinical decision-making. On October 22nd, 2015, WHO launched the Global AMR and Use Surveillance System (GLASS), the first global collaborative effort to standardize AMR surveillance. Similarly, the Asia-Pacific AMR network fostered collaboration, driving the role of technology-driven solutions combating AMR challenges among Asia-Pacific countries[1]. MoHFW launched Genome India to understand the genomic diversity of the Indian population and combat AMR. The Indian Council of Medical Research directly, in collaboration with private agencies and government institutions, developed AMRSense, an AI-based, evidence-based health data ecosystem for AMR surveillance[2,3].

Youth organizations such as the Global Association of Indian Medical Students (GAIMS) and the IMA Medical Students Network are also playing a pivotal role in this fight by mobilizing medical professionals and students to engage in awareness drives in hospitals and organizing campaigns to educate their peers and the public about the importance of responsible antibiotic use[5].

This signifies the importance of a multi-dimensional approach and collaboration among various stakeholders, including the youth, for advocating and combating the silent AMR pandemic. Due to India's variability in healthcare access across different populations and regions, it becomes difficult to penetrate the diverse healthcare landscape of the country, which could be fought by a collaboration between Global Health Associations like WMA and MoHFW, regional youth-led organizations in order to achieve a deeper reach in the endemic areas.

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Image 1: AMR Advocacy Initiative by Indian Medical Association in collaboration with Commonwealth Medical Association(CAMP-AMR) & Student led Organizations Campaigns



# Combating Antimicrobial Resistance: A Call to Action from the Somali Medical Association

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## Introduction

Antimicrobial Resistance (AMR) represents an escalating threat to global health, with significant implications for patient care in Somalia. The Somali Medical Association (SMA) acknowledges the urgent necessity to address AMR, which compromises the efficacy of infection treatments and impacts healthcare outcomes. This article delineates the challenges of AMR in Somalia and proposes actionable strategies for junior physicians and healthcare professionals.

## The Challenge of AMR in Somalia

In Somalia, the proliferation of AMR is attributed to several factors:

1. Overuse and Misuse of Antibiotics: Numerous patients engage in self-medication with antibiotics without medical supervision, frequently resulting in inappropriate use (1).
2. Limited Regulatory Oversight: The sale of antibiotics without prescriptions is prevalent, contributing to misuse and increasing resistance (2).
3. Public Awareness Deficit: The general population has a significant lack of understanding regarding the proper use of antibiotics (2).
4. Inadequate Surveillance Systems: Weak monitoring of resistance patterns impedes effective public health responses (2).
5. Healthcare System Strain: Ongoing conflict and limited resources exacerbate the challenges in managing AMR (3).

## Strategies for Addressing AMR

1. Awareness and Education: - Nationwide campaigns targeting healthcare professionals and the public are essential. Workshops and community outreach can educate about responsible antibiotic use and the risks of misuse [2].
2. Antibiotic Stewardship Initiatives: Implementing stewardship programs in healthcare facilities can promote the judicious use of antibiotics through clear treatment guidelines and regular training for healthcare providers [3].

3. Strengthening Regulatory Frameworks: In conjunction with the SMA, the Somali government should enforce stricter regulations on antibiotic sales to limit over-the-counter access and ensure that antibiotics are prescribed appropriately [3].

4. Promoting Research and Local Solutions: - Increasing investment in research focused on AMR is crucial. Collaborations with universities and international organizations can facilitate the identification of local resistance patterns and the development of targeted interventions [4].

5. Collaborative Efforts: - A multidisciplinary approach involving healthcare professionals, policymakers, and community leaders is vital. The SMA can facilitate these collaborations to create comprehensive strategies to combat AMR [1].

## Conclusion

The Somali Medical Association is committed to spearheading the fight against AMR through education, regulatory reform, and collaborative initiatives. By implementing collective action, we can safeguard our communities from the threats posed by resistant infections and ensure a healthier future for Somalia.

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## Letter To Junior Doctors Placed In Rural Areas for Community Service

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Practitioner, South Africa,  
Africa.

Hi, perhaps like Queen Esther you were made for such a time as this. You've done the work of preparing for years in Medical School with a gruelling study load. You have successfully completed the initial steps of being a doctor with the massive workload often working as the main workforce of the hospital, and now it's time to culminate the climax of this learning curve. You've had many a dreams or aspirations and for some of you, you're at the turning point of possibly leaving the career as a whole "I just want to finish Community Service and be done..." but for most it's the gateway to endless possibilities of furthering this career.

Though filled with this nervous feeling of "what if the comm server highlights my inadequacies" and "what if I'm called to court for mismanagement and the patients die on my hands?" "Am I expected to be the senior on the floor?" When less than one week ago you were considered the junior, the baby "dokotela" who will merely take bloods or push the patient to the radiology department will I now be responsible for pushing the adenosine. Life and Death.

Let us choose to look at life and what the saying "service above self" emulates letting all our selfish desires crumble at the hands of the community we've been sent to serve. What if, just what if, there's a patient who God had in mind when he sent you to your placement, they need your care, knowledge or even assertiveness. It's a life and death situation and you're placed amidst it all.

I pray for you, all the best from a South African Post community service doctor.

### New Placement as a Junior Doctor

#### *Lost*

*Lost driving in the new city  
Lost walking in the new hospital  
Lost running towards my vocation.  
The recurring theme was being lost, alas  
Hope (God, family, lover & friends) remained  
She held my hand and laughed with me forin  
many moments.*

#### *Found*

*I was found seeking God more earnestly.  
I found truth in the many tales about  
internships.  
I found that society will see your title above  
your humanity, so it is up to you to draw the  
boundaries of your humanness.  
I found that it is in the deep that you learn to  
swim.  
Swim or Sink, Lost and Found Grateful.*



# Applications of Artificial Intelligence in Surgery

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Artificial intelligence (AI) today revolutionizes multiple businesses which include the healthcare sector. In the operating room, AI powered technologies increase precision, efficiency and improve the patients' outcomes. AI is reshaping the future of medicine, from robotic-assisted processes to predictive analyzers. This article discusses the possible applications of AI in surgery.

## Enhanced Precision and Accuracy

One of the biggest benefits of AI in surgery is that it can improve the precision and accuracy of the surgery. With minimally invasive surgeries using the robotic surgical system such as da Vinci Surgical system, surgeons can use robotic arms to perform the operation as if they are sitting in front of the patient with precise dexterity and control. These systems use AI algorithms to stabilize hand movements, reducing human error and allowing for smaller incisions. Studies have shown that robot-assisted procedures lead to reduced blood loss while also giving patients fewer pain problems and shorter healing periods than standard surgical operations (Hendrickson et al., 2021).

## Improved Decision-Making Through Data Analysis

AI assists surgeons in making data-driven decisions in the perioperative period. Machine learning algorithms analyze vast amounts of patient data, including medical history, imaging scans, and laboratory results, to provide insights that aid in surgical planning. Additionally, leveraging machine learning algorithms to determine which nerves should be cut, preserved, or avoided based on their proximity, connections, and functions within the body allows for more precise surgical interventions. AI-powered diagnostic tools, such as IBM Watson Health, can detect anomalies in medical images with high accuracy, assisting surgeons in early disease detection and treatment planning.

A study by Topol (2019) found that AI-assisted image analysis improved the detection of cancerous tumors by 10-15% compared to human radiologists, reducing the likelihood of misdiagnosis.

## Reduced Surgical Complications

AI holds a vital role in reducing surgical complications by providing real time guidance to the surgeons during the procedure. While augmented reality (AR) and AI-driven navigation systems give surgeons high fidelity, detailed 3D visualizations of the patient's anatomy, precise incisions and reduced damage to surrounding tissues can be made. Vital signs are constantly tracked by AI powered monitoring systems and alert surgical teams in the case of potential complications so that they can be intervened on. A study by Hashimoto et al. (2020), the complication rate in AI assisted surgeries showed a decrease of 20% and hence improved patient safety and better post-operative outcomes.

## Personalized Treatment Planning

The other important use of AI in surgery is that it can provide personalized treatment plans. AI algorithms analyze individual patient data to recommend the most effective surgical approach tailored to a patient's specific needs. For instance, AI driven predictive models evaluate the risks and provide the most effective management strategy. In Orthopedics, AI can create customized implants based on a patient's individual bone structure, improving implant fit and longevity (Jiang et al., 2022). This personalized approach leads to better surgical outcomes and improved patient satisfaction.

## Increased Efficiency and Cost Reduction

AI enhances surgical efficiency by improving preoperative planning and documentation. AI-powered administrative systems simplify operating room scheduling, optimizing workflows, as well as reducing surgical

delays. Furthermore, robotic-assisted surgeries lead to shorter hospital stays due to faster recovery times, ultimately lowering overall healthcare costs. McKinsey & Company (2021) estimated that we can save 15–20% by hospital expenses through AI driven automation in surgery because the surgery errors as well as postoperative complications will decrease.

### Future Implications and Ethical Considerations

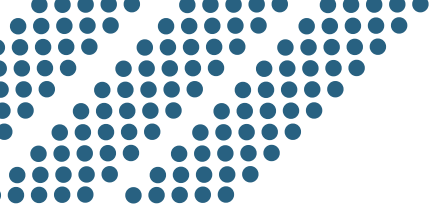
With the evolution of AI, the applications of AI in surgery will expand to improve better patient outcomes. AI-based autonomous surgical robots are being developed to perform routine operations with minimal human control, helping to make up for the widespread shortage of hospital surgeons. Nevertheless, there are still ethical considerations to be addressed like patient privacy, liability and potential bias from the AI algorithm. In order to increase safety in the patient and trust in AI driven surgical technologies, regulation is needed and there must be continuous monitoring of AI systems.

### Conclusion

The inclusion of AI in surgery has significantly improved precision, decision-making, complication reduction, personalized treatment planning, and efficiency. Robotic-assisted systems, machine learning algorithms, and other AI-powered technologies are transforming surgical practices and contributing to better patient outcomes. However, challenges remain in the widespread adoption of AI in surgery. With continued research and ethical considerations, AI can be fully harnessed to make healthcare safer and more efficient.

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