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Editorial

The coronavirus disease 2019 (COVID-19) pandemic continues to challenge global response efforts, with an estimated 595 million cases and 6.4 million deaths worldwide reported by the World Health Organization (WHO) (as of 24 August 2022). Health professionals have experienced fatigue and exhaustion in the workplace, as a result of the surge in health care service utilization during the circulating Omicron variants. These occupational stressors and risk of burnout may impact the future of the health care industry and attribute to the projected global health workforce shortage of 15 million by 2030.

With the global emergence of monkeypox cases, the WHO declared monkeypox as a "public health emergency of international concern" on 23 July 2022. According to the US Centers for Disease Control and Prevention, an estimated 44,503 monkeypox cases were reported in 96 countries (as of 23 August 2022). Of this total, 44,116 cases were the first reported monkeypox cases in 89 countries. Of this total, 40,971 cases were the first reported monkeypox cases in 87 countries. This zoonotic disease of concern – coupled with the COVID-19 pandemic – will urge global health leaders to discuss next steps in national preparedness and response plans to ensure global security.

Apart from these emerging pathogens, the ongoing Russian invasion of Ukraine has directly impacted oil and gas exports, and hence led to cascading effects on food and energy costs. Communities have been afflicted by the effects of climate change and natural hazards – including heat waves, wildfires, and flooding – that affect the delicate balance within the aquatic, atmospheric, and terrestrial ecosystems. Close attention to the impacts of natural and anthropogenic activity on our planet will require the One Health concept (human-animal-environment nexus) to be a central element of local and national initiatives that aim to strengthen health system preparedness and resilience.

On 4 August 2022, the United Nations (UN) Secretary-General António Guterres provided an update to the General Assembly, where he referenced the *Our Common Agenda* report as a "booster shot" to galvanize collective action to achieve the ambitious targets of the 2030 Agenda for Sustainable Development. In this report, he stressed four primary categories – redistributing global power and resources, enhancing youth engagement in policy decisions, delivering public goods during crises, and strengthening the UN infrastructure and preparedness – that will incorporate "five agendas for change" with expanded capabilities in the behavioral sciences, data, digital technologies, innovation, and strategic management. This call to action aims to encourage global leaders to make substantial forward strides toward addressing health priorities and fostering sustainable action.

The 221st World Medical Association (WMA) General Assembly will be held in Berlin, Germany, from 5-8 October 2022. At this event, WMA members will discuss policy statements, share comments and revisions to WMA resolutions, and connect with global colleagues.

In this issue, Dr. Otmar Kloiber provided an update about ongoing efforts by the WMA, the Standing Committee of European Doctors, and the European Forum of Medical Associations, to support the Ukraine Medical Help Fund. Dr. Frank Ulrich Montgomery defined racism and offered recommendations to end racism in the health care and community setting. Ms. Mitchell, Ms. McGinty, Dr. Ruff, Dr. Helfand, Dr. Umaña, and Mr. Christ discussed the development of the Treaty on the Prohibition of Nuclear Weapons. Dr. Rafael Laguens described the World Veterinary Association (WVA), potential collaborations between physicians and veterinarians, and his current priorities and activities as WVA president. Finally, WMA members highlighted national activities, perspectives on pressing health issues, and reflections about World Oceans Day and ocean sustainability.

We are honored to present this second issue of the *World Medical Journal* with several high-quality articles for the global community. WMA members can use this valuable platform to expand networking opportunities within the WMA community of diverse clinical and surgical specialties. By sharing germane information across countries – such as the World Oceans Day activities and reflections – we can identify existing knowledge and practice gaps, develop novel solutions to complex global challenges, and ultimately advance scientific knowledge and safeguard population health.

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The Ukraine Medical Help Fund

Otmar Kloiber

Since the end of the Soviet Union, Ukraine has searched for its place in Europe. Torne, between an old Soviet-educated and Russia-friendly political elite and a new western European-affiliate young leadership, Ukraine took a rocky road to independence.

At the end of 2013, protests against the Moscow-friendly government, led by President Wictor Janukowitsch, escalated when the president refused to sign the association agreement with the European Union. In February 2014, he was driven out of office and fled to Moscow. The change in government was followed by a bloody separation of eastern provinces with the help of Russian forces, which not only helped the rebels in the east but also occupied and annexed the Crimean Peninsula.

Russian troops were concentrated along the Russian border to Ukraine and in Belorussia, north of Ukraine. The Russian president Vladimir Putin started an invasion of Ukraine on 24 February 2022, allegedly for the "demilitarization" of Ukraine [1]. Soon after the invasion had begun, it became clear that it would face fierce Ukrainian resistance. On the other hand, we learned that Russian forces would likewise attack military and civil targets without discrimination. The high number of observed attacks on health facilities suggested targeted attacks on hospitals and clinics.

The sudden occurrence of a high number of wounded people, the rapid displacement of persons, and the war-derived depletion of medical stocks led to a sharp increase in medical demand for human resources and materials. Our colleagues from the Ukraine Medical Association called for help from three international organisations, the World Medical Association (WMA), the Standing Committee of European Doctors (CPME), and the European Forum of Medical Associations (EFMA).

During the first days of the war against Ukraine, a rapid survey showed that the neighbouring western countries were already experiencing a stream of refugees from Ukraine, mainly women and children. Also, there was a strong demand for medical goods and medicines to be exported to Ukraine. Together with the medical associations from Poland, Slovakia, Romania, Hungary, France, Japan, and later the Saxony State Chamber of Physicians, the three international groups formed the Ukraine Task Force during the first days of March 2022. The Polish Chamber of Physicians and Dentists immediately coordinated logistical operations, and many more remote medical associations spontaneously donated money to support Ukraine.

The Japan Medical Association (JMA) took the initiative by asking the WMA how to bring resources directly to the physicians in Ukraine. The WMA Executive Committee agreed to install a special fund to collect donations for Ukraine together with the CPME and EFMA [2]. The WMA Past President, Prof. Leonid Eidelman, was asked to lead the activities. By joining the Taskforce, the JMA provides a seed funding of over 100 million Yen, which is

Photo 1. The Mayor of Lviv, Andrii Sadovy (left), together with the WMA Past President Leonid Eidelman (right), expressing gratitude for the delivery of medical goods. Credit: WMA

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equivalent to more than 700.000 Euros. Significant grants from the medical associations of France, the Netherlands, Denmark, Iceland, Taiwan, Croatia, and Switzerland, the regional medical associations of France and Norway and the South-eastern EFMAs, and the JMA strongly supported the fund (Photo 1).

Colleagues and other individuals, companies, and regional medical associations donated numerous smaller but still impressive grants. By the middle of June 2022, the fund had collected more than 2.7 million Euros.

The acquisition of products was more difficult than anticipated, at least at the beginning of the war. Seemingly a run-on medical goods and medicines had begun with the onset of the war, and supplies fell short in Ukraine and their close western neighbours. With the support of the Israel Medical Association, Prof. Leonid Eidelman helped acquire medicines and medical products for the first shipment from Israel via Poland to Ukraine (Photo 2).

In Poland, the CPME Past-President, Dr. Konstanty Radziwill, who serves as the current governor of the Greater Masovian Region in Warsaw, lent his support to the project. Prof. Eidelman accompanied the first transport of goods to Lviv himself. Prof. Andrii Basilewitsch, Board member of the Ukraine Medical Association and Liaison to EFMA, welcomed Prof. Eidelman delivering the transport to Lviv in Ukraine. During his visit, Prof. Eidelman contacted "Freedom to Ukraine", a non-governmental organization volunteer group that delivered medical and humanitarian supplies into the war zone. Through these communications, he learned about the drastic increases in surgical and neurosurgical cases, often treated with insufficient materials and equipment.

Following this visit, the steering committee decided to cooperate with the "Freedom to Ukraine" organization and provide surgical equipment for one department of Neurosurgery in Kyiv. When a second large transport of medical goods and medicines had reached Ukraine, the "Freedom to Ukraine" organization helped deliver these resources to the war zone. The Ukraine Medical Help Fund also ordered craniotomy equipment for Kyiv, which is necessary to treat many types of head injuries.

In May 2022, the Saxon Chamber of Physicians joined the task force to offer help in acquiring urgently needed medical products for Ukraine. Together with a non-governmental organisation from Dresden, "Hope for Ukraine", they supported two deliveries of medicines to Ukraine. Currently, the Ukraine Medical Help Fund is ordering materials for a maternity clinic in Mykolaiv, general intensive care clinic in Cherkasy, and the Ukraine Medical Association.

As long as funds are available, these global efforts will continue to support Ukraine. Notably, the three organisations administering the fund – WMA, CPME, and EFMA – have decided to assume the administrational costs, and no fund money is received by these organisations. We are sincerely grateful for the support that we have received in our efforts to help our Ukrainian colleagues and their patients.

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Photo 2. Materials ready for delivery to Ukraine. Credit: Israel Medical Association

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Opinion: There is No Place for Racism in Medicine…

Frank Ulrich Montgomery

There are many challenges in the delivery of medical services worldwide. One specific problem that has been underestimated in its importance in the health setting has been recently discussed: racism in medicine. With increased mobility and transparency of the global medical workforce and general societies, it becomes more and more apparent about how unjust and improper all forms of racism are. A medical profession that is representative of the general population has a crucial role in addressing health disparities as a result of racism.

At the next General Assembly (GA) of the Word Medical Association (WMA) in Berlin (Germany), a resolution prepared and submitted by the German Medical Association "Bundesärztekammer" (BÄK) aims to condemn racism in all medical services and behaviours of medical professionals. In this editorial, the author will use quotations from this draft resolution, Proposed WMA Declaration on Racism in Medicine, which will be presented and discussed during the GA in October 2022.

The WMA was founded in Paris in 1947, in reaction to World War II and the atrocities that German physicians had committed under a construct of social and racial hygiene that was based on the theory of racial differences and supremacy. In the late 1940s, the Nuremberg Trials clearly showed the devastating results of a medical profession acting in close collaboration with an autocratic government using social constructs instead of biological and genetic evidence. The BÄK is deeply committed to prevent these acts of unethical behaviour from happening again.

Racism can appear in many forms within the healthcare and community setting.

- Racism can occur during the interactions of patients and their physicians. Healthcare professionals may be reluctant to see patients of another racial origins, recognizing that different treatments are advised for racial groups. Alternatively, patients may also refuse treatment by physicians on the basis of their colour, race or origin.
- Racism can hinder or undermine the foundation of trust that is essential for successful patient-physician relationships.
- Systemic racism creates barriers of entry to the medical profession for certain historically excluded groups. These barriers are caused by various factors, including implicit and explicit bias in admission to medical school, curricula of medical schools and residency programs, faculty development, and hiring practices.
- Structural racism can also influence participation, and therefore inclusivity, in medical research. Historical examples of unethical experimentation or research in the absence of informed consent on marginalized communities have led to a high level of mistrust of the medical establishment.

We must face it: Although many declarations and resolutions exist worldwide from a wide range of organisations – including multilateral political institutions like the WMA to local medical communities – racism still exists. The presence of racism has a direct impact on patients' physical and mental health and quality of life.

As leaders of the global medical community, it is therefore adamant that we:

- Condemn racism in all its forms, wherever and whenever it occurs;
- Declare racism as a public threat;
- Acknowledge that racism is structural and deeply engrained in health care;
- Assert that racism is based on a social construct with no basis in biological reality, and that any effort to claim superiority by exploiting racist assumptions is unethical, unjust, and harmful;
- Recognize that the experience of racism is a social determinant of health and responsible for present health inequities;
- Commit to actively promoting equity and diversity in medicine and strive for an inclusive and equitable health environment.

The WMA has a longstanding history of fighting racism in all its forms. For several decades, we asserted that races do not exist in a genetic sense, but represent a social and often historical construct. Racism stems from a false ideology that human beings can be grouped into a hierarchy of racial categories primarily based on inherited physical traits. This harmful social construct has no basis in biological reality; however, racist policies and ideas are still used to perpetuate, justify, and sustain unequal treatment. It is our ethical obligation to conquer racism wherever it exists.

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World Medical Association
General Assembly 2022
Berlin, Germany
5 – 8 October 2022
Ritz-Carlton Hotel

Dear colleagues and friends,

It is my great honour and privilege to invite you to attend the World Medical Association's General Assembly 2022 from **5 to 8 October 2022** at the **Ritz-Carlton Hotel** in **Berlin, Germany**. The German Medical Association looks forward to welcoming you to this year's meeting, which boasts an exciting and informative programme. Highlights include a welcome reception in Berlin's iconic Red City Hall "Rotes Rathaus" with the Governing Mayor of Berlin Franziska Giffey and a Scientific Session focused on "Medical Ethics in a Globalized World" with distinguished guest speakers, including some of the world's most renowned experts on medical ethics.

We have much to celebrate this year. Not only will it be the first General Assembly held in person since 2019, but the WMA and the GMA will also both be celebrating the 75th anniversary of their establishment. To mark this occasion, the GMA will host a festive celebration to tie in with the WMA General Assembly on 6 October from 10 a.m. to 12 p.m., which you are warmly invited to attend. I am especially honoured to welcome guest speaker Prof. Dr Alena Buyx, Chair of the German Ethics Council, who will give a talk on "The future of medicine – The changing role of the physician".

Beyond the many meetings and festivities of the General Assembly, I hope you will also have time to enjoy everything our capital city has to offer. Berlin continues to live up to its reputation as a vibrant, dynamic, creative, and welcoming city. It also maintains a long tradition as a city of science and a hub of medical and scientific innovation, shaped by the research and discoveries of famous physicians like Rudolf Virchow and Robert Koch. In addition to the many world-renowned institutions calling Berlin home, the city now hosts the annual World Health Summit, attended by health experts from all over the world. And in 2021, the World Health Organization established its Hub for Pandemic and Epidemic Intelligence in Berlin.

The WMA General Assembly was last held in Germany in 1999, and I remain optimistic that we will be able to gather here again this year to discuss the important issues facing our profession, the patients we serve and society as a whole.

Yours sincerely,

Dr Klaus Reinhardt
President

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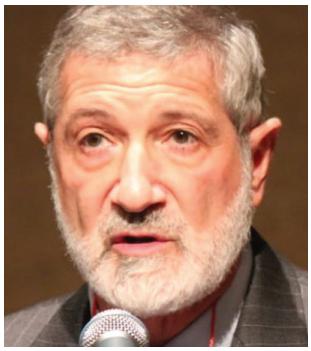
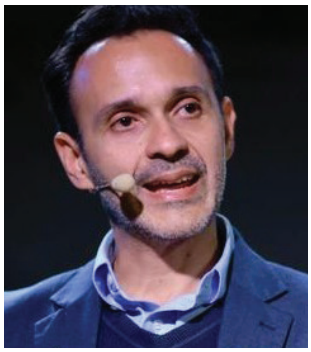
A Prescription for Survival: Nuclear Abolition is Core Business for Doctors

Ruth Mitchell



Ira Helfand

Molly McGinty



Carlos Umaña

Tilman Ruff

Michael Christ

The International Physicians for the Prevention of Nuclear War (IPPNW) has been hard at work as we look forward to the first Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons (TPNW). This treaty, often referred to as the nuclear ban treaty, is the result of decades of hard work and careful advocacy by community groups, activists, health advocates, and the survivors of nuclear weapons use, both in Hiroshima and Nagasaki and in numerous nuclear tests.

In 2005, born out of deep frustration with the global inaction on nuclear abolition, Dr. Ron McCoy, a Malaysian IPPNW obstetrician, conceived a new campaign that united many people and organisations around the world yearning for an end to nuclear weapons. The International Campaign to Abolish Nuclear Weapons (ICAN) was founded in Melbourne, Australia, by the Australian affiliate of IPPNW: the Medical Association for the Prevention of War (MAPW), which served as the incubator of this new global initiative. Since its foundation, the work has gained momentum, building on decades of persistent medical advocacy by the IPPNW. The campaign adopted a humanitarian lens and a robust toolkit, focusing on divestment and awareness raising. Notably, in January 2021, the TPNW entered into force, making nuclear weapons illegal.

In the words of Setsuko Thurlow, a hibakusha from Hiroshima and now Canadian campaigner, "I've been waiting for this moment for seven decades, and now it has finally arrived". Now, we find ourselves in a unique moment in history where our vulnerability and interconnectedness have been laid bare by a global pandemic. Health inequities have never been more apparent, and it is increasingly clear that the possession of nuclear weapons does not deter war, but instead provides cover for potentially harmful and immoral incursions on sovereign nations. In short, the need for nuclear abolition could not be clearer. Either we eliminate nuclear weapons, or they will eliminate us.

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The global federation of the IPPNW, which has affiliates in 55 countries with thousands of participating health professionals, is grateful for our partnership with the World Medical Association (WMA). We know that we can only achieve a world free of nuclear weapons by working together, drawing on the strengths and insights that each partner brings to the discussion. Along with the International Council of Nurses (ICN), International Federation of Medical Students Associations (IFMSA), and the World Federation of Public Health Associations (WFPHA), the IPPNW and the WMA have recently released the below Joint International Health Statement for the first Meeting of States Parties of the TPNW.

The Joint Statement

Representing physicians, nurses, public health professionals, and medical students worldwide, we speak with a united voice on the urgent need to eliminate nuclear weapons as a matter of global health and survival. Updated evidence on the catastrophic consequences of any use of nuclear weapons, the acute and growing danger of their use, and the impossibility of any effective humanitarian and health response following nuclear explosions on populations, should underpin the work of the upcoming 1st Meeting of States Parties (1MSP) of the Treaty on the Prohibition of Nuclear Weapons (TPNW).

The TPNW is based upon a body of indisputable evidence, documented by scientists, health professionals, and experts in crisis management and response, that the consequences of nuclear weapons use are catastrophic, global, and without remedy. The Treaty concludes - and we concur - that the prohibition and elimination of nuclear weapons is the only responsible course of action in the face of such consequences.

The detonation of nuclear weapons produces incinerating heat, powerful shock waves and overpressures, ionizing radiation, an intense electromagnetic pulse, and massive amounts of smoke and soot that can alter the Earth's climate. Unlike conventional weapons or other weapons of mass destruction, nuclear weapons instantaneously wipe out entire populations, level cities, and devastate the environment. They produce radioactive contamination that remains active for millennia, causing cancers and other illnesses that can persist across generations. Moreover, the environmental consequences of nuclear war, including severe climate disruption, can lead to global famine and, in the most extreme case, human extinction. No meaningful medical or disaster relief response to the detonation of nuclear weapons is possible.

Since the adoption of the Treaty, new data about climate effects has been published documenting the impacts from both limited and large-scale nuclear conflicts. IPPNW has submitted a briefing paper to the 1MSP that summarizes the blast, heat, and radiation effects of nuclear weapons, as well as the global impacts of nuclear war on climate, nutrition, and food security. This evidence should continue to drive the process of implementing the Treaty, its prohibitions, and its positive obligations.

The world has not been this close to nuclear war since the Cuban Missile Crisis of 1962. If the conflict in Ukraine were to escalate to the use of nuclear weapons, the consequences would almost certainly be global and catastrophic. Diplomacy is urgently needed to remove the danger of nuclear escalation in the current crisis, and needs to progress to negotiations among all nuclear-armed states to eliminate their nuclear arsenals under strict verification and timelines.

As the World Health Organisation has stated, nuclear weapons pose the greatest immediate threat to human health and welfare. The elimination of nuclear weapons is the only way to put an end to this preventable and intolerable threat.

As member and observer states prepare to meet in Vienna for the 1st Meeting of States Parties, we call for prompt and universal ratification and implementation of the Treaty on the Prohibition of Nuclear Weapons.

Our Organizations

- The ICN is the international federation of nursing organizations representing national nurses' associations in 130 countries.
- The IFMSA envisions a world in which medical students unite for global health and are equipped with the knowledge, skills, and values to take on health leadership roles locally and globally. Founded in 1951, it is one of the world's oldest and largest student-run organizations. It represents, connects, and engages a network of 1.3 million medical students from 145 national member organizations in 134 countries.
- The IPPNW is a federation of health professional organizations in 55 countries dedicated to the eradication of nuclear weapons. The IPPNW received the Nobel Peace Prize in 1985, and founded the International Campaign

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to Abolish Nuclear Weapons (ICAN), which received the Nobel Peace Prize in 2017.

- The WFPHA is an international federation of 130 national and regional public health associations, representing five million public health professionals worldwide. The WFPHA is the only worldwide professional society representing and serving the broad field of public health internationally.

- The WMA is an international organization representing physicians, with 115 national member organizations and thousands of associate members worldwide.

Through the process of developing and negotiating the TPNW, we have presented compelling evidence with one united voice of health professionals through working papers and submissions, oral testimonies, commentaries, and articles. These efforts have been influential, and this evidence on the real consequences and risks of nuclear weapons is reflected in the TPNW. On 20 June 2022, the day before the Meeting of States Parties, the 2022 Vienna Conference on the Humanitarian Impacts of Nuclear Weapons will be held and aims to review and update this evidence. We look forward to increasing collaborations over the years to come, as we work to overcome the greatest threats to our health, and indeed, our very existence.

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The Voice of Global Veterinary Medicine

Rafael Laguens

The World Veterinary Association (https://worldvet.org/) is an international organisation that integrates veterinary associations on all continents and represents the global veterinary profession. The WVA's vision is to be recognised, respected, and trusted to influence the mission to improve animal health, animal welfare, public health, and the environment for the good of humanity, animals, and the planet worldwide. Founded in 1959, as an evolution of the Permanent Committee for the International Veterinary Congresses, the early history of the WVA started with the announcement of its first congress, which was held in Hamburg, Germany, in 1863.

As respect for diversity, mutual collaboration, and solidarity are part of the WVA's identity, science, education, and advocacy are the instruments to achieve these goals. The WVA activities are carried out in an independent, ethical, and professionally responsible manner by the three governing bodies: the General Assembly, the highest governing body of the Association; the Council, as the executive body; and the Executive Committee, which acts on behalf of the Council between meetings.

The main objectives of the WVA are to unite the veterinary profession; protect, promote, and maintain the status and interest of veterinarians; to maximise the contributions of the veterinary profession to animal health and welfare, public health, environmental protection, animal production, and food safety; to establish, promote, and maintain high standards for veterinary medical education and professional ethics; to encourage and promote the exchange of veterinary knowledge and professional dialogue; and to establish and enhance strategic partnerships and relationships with other international organisations and bodies.

After identifying emerging health issues, recognizing limited resources, and considering input from WVA members, key partners, and governing bodies, the WVA's current strategy was developed. The four priority areas include One Health, veterinary education, pharmaceutical stewardship, and animal welfare. Another ancillary point for the Association is improving operations and promoting visibility and essential partnerships. The WVA continues its work in these described priority areas through the efforts of different committees and working groups, which include a vast network of external experts who support the WVA endeavours. Moreover, the WVA ensures effective cooperation to achieve its goals through collaborative partnerships with intergovernmental agencies, non-government organizations, industry leaders, and other relevant stakeholders.

Some specific goals are to provide education on One Health topics at the annual WVA Global Summit; develop a position statement on the global climate emergency; develop a common self-assessment tool for veterinary colleges; conduct regional surveys regarding accreditation veterinary education standards in use; advocate for the availability and access to quality pharmaceuticals and biologics for veterinarians worldwide; develop a list of essential veterinary pharmaceuticals that should be available for use by food animal practitioners; and contribute to discussions on global antimicrobial resistance as they pertain to veterinarians and their access to and use of antimicrobials.

The WVA's vision aims to build the voice of the global veterinary profession, which can be recognised, respected and trusted by the different stakeholders and international organisations, such as the World Medical Association (WMA), the World Health Organisation (WHO), the Food and Agriculture Organization of the United Nations (FAO), and the World Organisation for Animal Health (founded as OIE). The WVA would like to use its voice to expand dialogue and seek understanding, agreement, and alliances with different partners.

Notably, the WVA considers the WMA a sister organisation because both organizations share similar values and interests of their membership. There is an essential memorandum of understanding between WMA and WVA, which recognises the mutually beneficial relationship and the need to establish working arrangements. Specifically, it states that "The Parties will collaborate in the One-Health concept, which is a unified approach to veterinary and human medicine (veterinarians and physicians) in order to improve Global Health." The scope of this cooperation includes:

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supporting the concept of joint educational efforts between human medical and veterinary medical schools; strengthening cross-species disease surveillance and control efforts to prevent zoonotic diseases; collaborating in the responsible use of antimicrobials concerning critical antimicrobial lists for humans and animals; and enhancing collaboration between human and veterinary medical professions in medical education, clinical care, public health, and biomedical research.

As the newly elected WVA president for the 2022-2023 term (https://worldvet.org/news/welcome-dr-rafael-laguens/), I am interested in leading our WMA initiatives that align with the four priority areas and objectives of the WVA strategy. We will contribute to reinforce the One Health approach as a framework to shape the WVA's concrete actions, strategies, and collaborative work with different sectors. Indeed, we aim to strengthen the Association by reinforcing the unity of members, increasing the number of member associations, improving internal and external communication, and optimizing its governance.

This article offers an excellent opportunity to improve mutual understanding and strengthen ties between the WMA and the WVA as well as between physicians and veterinarians across the globe. As both professions exemplify specialized training and expertise, both organizations have a unique role and share the responsibility for contributing to global efforts that highlight the value of the One Health approach in essential decision-making. Notably, each profession can guide the development of concrete actions and strategies that promote a more integrated approach of interdisciplinarity collaborations within a wide range of disciplines and sectors, even beyond human and animal medicine.

Moving forward, humanity must be better prepared to prevent, predict, detect, and respond to global threats – such as emerging infectious diseases, antimicrobial resistance, and climate change – as well as promote actions to achieve sustainable development. If humans intend to continue living on Earth, they must begin to reverse their environmentally unfriendly behaviours and implement actions to achieve a healthy and habitable planet for the next generation.

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How COVID-19 Vaccine Access is Still Limited in 2022: A Call to Action

Wenzhen (Jen) Zuo

Globalisation allowed diversification of trade and urbanisation and increased global mobility, leading to easier transmission of human and animal diseases [1]. The coronavirus disease 2019 (COVID-19) pandemic is the perfect illustration of the emergence and spread of a new infectious pathogen across the globe. As of 22 July 2022, the World Health Organization (WHO) reported an estimated 565 million cases and six million deaths due to COVID-19 [2]. This commentary will discuss how the mechanisms to distribute medical countermeasures to tackle this pandemic are inadequate and exacerbate areas of pre-existing inequalities [1].

According to the Global COVID-19 Access Tracker, more than 74% of high- and upper-middle-income countries are fully vaccinated [3]. Lifted from sanitary measures, higher-income countries (HIC) are experiencing a new economic bloom, while the disparities with lower-middle-income countries (LMIC) dug deeper. According to the World Bank, the pandemic has reversed the progress made in the Sustainable Development Goals (SDG), especially in targets aiming to end poverty. It is estimated that 100 million more people have fallen into extreme poverty, and 80% of them are from middle-income countries [4]. According to Our World in Data, only 15.2% of low-income countries (LIC) have received one dose of vaccine [5]. At the end of 2021, 75% of high-risk health care professionals in LICs are not yet been covered by vaccines [6], while countries in Europe and North America have started to roll out the fourth booster. This effect can be described as a "vaccine apartheid" [7].

According to the Independent Panel for Pandemic Preparedness and Response, deaths increase faster in vaccine-uncovered regions. Many lives in LMICs could be lost from vaccine-preventable deaths from future severe variants [8]. Currently, LMICs account for 63% of the reported deaths worldwide, with excess mortality estimates as high as 87% [9]. Many parallel the current vaccine apartheid with the HIV/AIDS epidemic, where deaths in HICs decreased after the apparition of anti-retroviral medications, but 12 million Africans died waiting for azidothymidine to reach the continent [10].

Having life-saving vaccines on the market one year into the pandemic is undeniably the most impressive achievement of modern medicine. The COVID-19 vaccines resulted from an unprecedented global collaboration in data sharing, open research, and worldwide vaccine trials. It is important to note that vaccines are funded mainly by public funds from governments and grants [11]. However, the privatisation of technologies makes them challenging to access. The vaccine access disparity is nothing new. During the last H1N1 epidemic in 2009, HICs bought almost all the supply of vaccines, leaving the most affected countries in LMICs without any supplies [11]. To counter this scenario, in April 2020, the WHO created the COVAX facility to procure vaccines for both high- and low-income countries. The COVAX pledged to equitably distribute vaccines so that 20% of the most vulnerable population in every country could have access to vaccination. It also offered subsidised lower prices for 92 LMICs [9].

Although the idea seemed equitable, the reality was different. Ultimately, COVAX failed to deliver its promises. In 2021, 4.2 billion vaccines were administered, and 70% were in HICs, representing 16% of the world population. First, there was an issue with the governance of COVAX, which served foremost the interests of stakeholders and powerful HIC countries. COVAX was structured under the Access to COVID-19 Tools Accelerator (ACT-A), a super-Public-Private-Partnership (PPP) announced in April 2020 at G20 by European Commission and the Gates Foundation. The entire structure was fragmented with a lack of transparency and public accountability. Instead of having its own governing board, COVAX was financed via GAVI and CEPI, two previously established PPPs for vaccine procurement and research and development, and dependent on their boards with heavy pharmaceutical representation and philanthro-capitalists. Notably, there was minimal representation from LMICs and civil societies [12]. If there were better representations of LMICs, perhaps COVAX would have performed better in achieving its mission.

Second, by aiming to facilitate vaccine access to LMICs to tackle a health security problem, which impacts every corner of the planet,

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COVAX is unavoidably competing against the interests of powerful HICs. In 2020, HICs bypassed COVAX and stuck in bilateral deals with pharmaceutical companies with advance purchase agreements. This "vaccine nationalism" was meant to secure early access to vaccines for their domestic population and hoarding 5-10 times their national population's need [11]. When all global vaccine supplies were bought up by bilateral agreements, few were left for COVAX. When the Serum Institute of India banned the exportation of the generic AstraZeneca vaccines to COVAX, the delivery of promised doses in 2021 to LMICs was halted. With all the HICs by-passing COVAX, it was transformed into a new aid-dependent vaccine distribution facility, relying solely on donations from countries and funding from private partners. Furthermore, wealthy countries preferred employing "vaccine diplomacy" in bilateral donations to LMICs to "reap geopolitical and diplomatic benefits" [12]. Pfizer and Moderna, both pharmaceutical companies, are promising vaccines to COVAX, but they had always prioritised orders from wealthy countries before delivering to COVAX [11].

On UNICEF's Global Vaccine Tracker, most HICs, despite having reached 70% of vaccination, are still securing more doses to be delivered for up to 300% of vaccination coverage. In comparison, countries like Tanzania can only secure 35% of their needs to cover 44% of their total population [3]. Currently, COVAX is trying to fundraise US$6 billion to deliver 600 million doses of vaccine to cover 70% of 92 LMIC/LICs [13]. However, according to UNICEF, at least 1.4 billion doses are still needed to be administered to reach that 70% vaccination target [3]. Hence, the dosages that COVAX pledged to donate only represent 43% of the doses necessary to achieve the global target. The rest will need to be self-funded by countries already strained from other urgent health priorities and debts. This financial year, COVAX has only 7% of its planned budget secured [3], and it does not seem to have enough financial resources to guarantee the projected delivery of 600 million doses. Even if it could ensure this quantity, there will not be enough doses to reach the 70% vaccination target set by the WHO by mid-2022.

The reliance on the donor-run COVAX, has no power to stop future divergence of vaccines. As a potential solution, the WHO created the mRNA Vaccine Technology Transfer Hub in South Africa and sub-hubs in a few other countries in Africa, Latin America, and Asia to de-centralise vaccine production and promote self-reliance. South Africa's Afrigen is now reverse engineering mRNA vaccines without assistance from Moderna and hopes to initiate phase 1 trials by autumn 2022 [14]. It will likely need at least 3-5 years, if not more, to reach the market. This Hub will build the capacity for LMICs to produce their future pandemic vaccines. It can also use the same technology for future local production of malaria and HIV vaccines. However, the mRNA hubs will likely not hasten the end of the current pandemic.

Despite the WHO's COVID-19 Technology Access Pool (C-TAP) for knowledge transfer, no pharmaceutical companies have been incentivised to participate, especially since the pandemic created the perfect thriving, profitable environment. Once a vaccine is developed, they had guaranteed purchases from all countries for the entire duration of the pandemic. The mRNA vaccine is a new technology and not easily replicable, heavily relying on supply chains for its components. As such, why would these pharmaceutical companies release their patents? Currently, there are 11 agreements with primary pharmaceutical companies related to vaccine development in the African continent. However, except for one, most are "filled and finish" types that do not require a complete knowledge transfer to truly decolonise from A-Z the production of the mRNA technologies [15]. In March 2022, Moderna announced a partnership with Kenya to start a local manufacturing site, in which Moderna plans to ship "mRNA vaccine factory kit" [9] and can expand in the future for the "fill and finish" type [16]. This, however, is not proper knowledge transfer.

An actual knowledge transfer needs more substantial incentives, such as a patent waiver. The latter was proposed by India and South Africa at the World Trade Organisation (WTO) in October 2020, to waive all patents on vaccines, diagnostics, therapeutics, and medical equipment. In March 2022, a leaked text from the WTO showed that this Trade Related Aspects of Intellectual Property Rights (TRIPS) waiver has been watered-down, making the proposed text a much weaker waiver, with additional conditions limiting its usage for patent lifting [18]. The Médecins Sans Frontières (MSF) stated that this new text only involves vaccines and does not address other barriers to intellectual property, such as critical information about manufacturing. It fails to cover all countries: only developing countries that export less than 10% of the world vaccine exports in 2021 are eligible, excluding countries like Brazil or China with the largest capacity to produce immediately generic mRNA vaccines [19]. Despite allowing developing countries to produce their vaccine, this will be labour and funding intensive. It could take longer to market a competitive generic

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mRNA vaccine, by excluding major generic-exporting countries. This watered-down TRIPS waiver protects the interests of pharmaceutical companies concentrated in HICs by maintaining their price and profits.

In conclusion, the COVID-19 pandemic showed an inequitable colonial distribution of life-saving vaccines. It perpetuates the reliance on few HICs for their well-kept vaccine secrets, which are global public goods resulting from public funding and global scientific collaboration. Unfortunately, despite all the global advocacy efforts to lift patents for all medical countermeasures, a watered-down WTO TRIPS-waiver was signed at the WTO ministerial meeting on 17 June 2022 in Geneva, far away from the initial text proposed by India and South Africa. The next question to consider was: How can we encourage pharmaceutical companies to share their knowledge and help mRNA vaccine hubs build their capacity to produce vaccines for a future pandemic?

To date, we must not forget that the global pandemic has not ended. In preparation for a future variant that may require another wave of worldwide boosters, current generic manufacturers must be encouraged to maintain their capacity to scale up quickly the production of a large quantity of vaccines for future worldwide increased demands. The recognition of newer vaccine candidates from the LMICs (such as the Cuban candidates) should be better promoted and accepted worldwide. COVAX needs to facilitate access to newer vaccine candidates at a truly affordable cost and advocate for knowledge transfers. Also, HIC leaders should be kept accountable to no longer hoard and pre-order excessive boosters.

Finally, there is a need to urge ACT-A/COVAX to be transparent and accountable: the executive decisions should exclude any commercial interests from pharmaceutical representatives. To avoid commercial and powerful philantro-capitalists influencing global health agenda and priorities, our governments need to increase countries' direct financing of the WHO. This commentary has not touched upon vaccine delivery and hesitancy, which are other equally important building blocks of vaccine access [11]. The latter will require local governments to be empowered to perfect their own vaccination program according to the local needs and tackle the challenges of vaccine hesitancy [9]. Finally, the new pandemic instrument, with an early draft being formed now in Geneva, will need to be legally binding and have a robust system to reinforce future equitable access to vaccines, diagnostics and therapeutics, and mandatory patent waiver and knowledge sharing. Pandemic preparedness and investment into health systems strengthening and strengthening local capacity to tackle the pandemic in all its steps will be crucial. As a global community, it is time for us to join our voices and advocate for improved pandemic preparedness and response via the new pandemic instrument negotiations.

Special thanks to Prof. Kenneth Shadlen (London School of Economics), Prof. David Heymann (London School of Hygiene & Tropical Medicine), and Prof. Carolyn Stephens (London School of Hygiene & Tropical Medicine), who served as mentors of the described content and guided my reflections to prepare this article.

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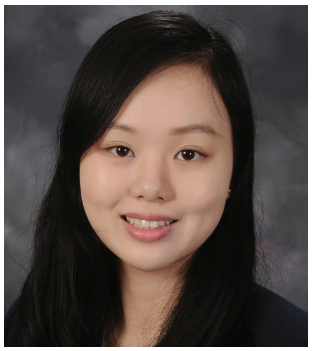
The Current Development of Health Management and its Role in the Future Medical Model in China

Qing Guo



Zhenyun Guo

The emergence and development of health management is the inevitable result of the transformation of the medical model. In the history of human development, the medical model has transitioned through the spiritualist medical model, the natural philosophy medical model, the biomedical model, and the bio-psycho-social medical model, which finally promoted the emergence of the discipline of health management. In traditional Chinese medicine, the idea of health management ("Zhiweibing") reflects the notion that the disease cure has not yet been developed. The idea of Zhiweibing originates from The Yellow Emperor's Classic of Internal Medicine, a classic Chinese medicine book written more than 2,000 years ago. It states, "A sage does not treat the disease that one already has, but rather treats the disease that has not yet been developed. A sage does not treat the turmoil that already existed in the nation, but rather treats the turmoil that has not yet been developed." This statement stresses the importance of disease prevention.

After the People's Republic of China was founded in 1949, and being aware that China lacked doctors and medicines, the country has continuously given priority to disease prevention in its national policies. It has established a tertiary medical and preventive health care network covering urban and rural areas, established a cooperative medical system suitable for China's national conditions, and trained nearly 1.3 million rural doctors at multiple levels and through various channels. Additionally, it has extensively conducted patriotic health campaigns and implemented the health policy of "focusing on the medical and health professionals in the countryside". By 1977, after more than 20 years of efforts, infectious and parasitic diseases were effectively controlled [1]. Consequently, the overall health condition of the Chinese population has improved.

However, after the Reform and Opening-up in 1978, and especially starting with the 21st century, the health care needs of the Chinese population grew significantly, as their living standards improved with rapid economic growth. Meanwhile, population ageing accelerated (Table 1). Due to poor diet, about one-third of the population is overweight or obese. Also, a total of 40% of the adult male population smoke, and fewer than 20% of the population are engaged in physical activity. Hence, the incidence of chronic diseases continuously increases within the population [2].

With the accelerated pace of life, staying up late, and mental stress, about three-quarters of adults are at risk of developing chronic diseases due to risk factors such as unhealthy lifestyles. In one recent study, authors analysed Ministry of Health data from 2000 to 2017, and reported that the leading causes of mortality in Chinese adults were malignant tumours, cerebrovascular disease, cardiovascular disease, respiratory disease, and injury and toxication [3]. As these causes were attributed to more than 85% of the total deaths in 2017, it propels health leaders to

Year	Number of people over 60 years (in 0.1 billion)	Percentage of population (%)
1999	1.24	10.3
2010	1.78	13.26
2015	2.21	16.0
2020	2.60	18.7
2030	3.71	25.6
2045	4.47	33.5

Table 1. The reported and projected numbers and percentages of people over age 60 in China, 1999-2045 [2].

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tailor primary prevention and control efforts to reduce risk factors of non-communicable diseases, including cardiovascular disease [3].

Chinese leaders realised that the country was unable to meet population needs by solely expanding hospitals and increasing the number of hospital beds. Moreover, the health system recognized that there were significant challenges associated with its ageing population and increased incidence of chronic diseases. In order to solve these issues, China adopted the concept of Western health management, and since then, theoretical research and practical exploration of health management in China have made major progress over the past 20 years.

In recent years, the health management industry in China has developed rapidly, supported by government policies. In 2013, leaders proposed in the document, "Several Opinions of the State Council on Promoting the Development of the Health Service Industry", which emphasised the need to start by improving the quality of health care and health literacy of the population, by strengthening the health service industry [4]. As the total output value of the health industry was 4 trillion yuan in 2013, the development goal for the total output value of the health industry aimed to reach 8 trillion yuan in 2020 and 16 trillion yuan in 2030. According to reports, China has achieved the established goals for 2020 [5]. Moreover, since 2013, the "China Health Service Industry Development Report 2013-2021", published every two years, provides a regular analysis, trend prediction, and international comparison of the development of China's health service industry [5].

As the health management industry continues to grow, its concepts have been widely adopted in Chinese academia. In July 2007, the Chinese Medical Association Health Management Branch was established, and in October of the same year, the *Chinese Journal of Health Management* was launched. In January 2011, the "Introduction to Health Management" was published and distributed by the People's Medical Publishing House, as the first monograph on Chinese health management [6]. It provided academic support for universities to develop health management courses and promote the cultivation of health management talents.

In September 2011, China's first health management college was established. In December 2013, the Zhiweibing and Health Management doctoral degree was approved by the Academic Degrees Committee of the State Council, marking the establishment of the full bachelor-master-doctoral training structure in health management. The Mobile Health Management System Engineering Research Centre of the Ministry of Education was also founded as a research centre dedicated to the application of information technology, big data, and artificial intelligence in health management. In November 2015, "Health Management" was published by the People's Medical Publishing House, as a textbook for China's Twelfth Five-Year Plan [7]. Over the past 10 years, many colleges and universities have launched undergraduate majors in health service and management, and as of March 2022, 136 colleges and universities had established this major [8,9]. After 20 years of theoretical and practical research, a health management discipline with Chinese characteristics has formed.

Basic Concepts of Health Management

Health management aims to identify, monitor, and control for health risk factors continuously [9]. In 2009, the Chinese Medical Association Health Management Branch organised an event where experts from the national health management academic community could jointly compile and promulgate the "Preliminary Consensus of Chinese Experts on the Concept and Discipline System of Health Management". This consensus describes the concept of health management as follows: "It is the medical practice and process that, based on modern health concepts, physiological-psychological-social medical models, and Chinese medicine Zhiweibing concepts, by adopting theories, techniques, methods, and means of modern medicine and modern management, comprehensively detects, evaluates, effectively treats and continuously tracks individuals' or groups' overall health status and risk factors affecting health. Its purpose is to obtain maximum health benefits with minimum investment" [10].

Health management may be centred on people's health, with an emphasis on early screening, assessment, and intervention coupled with a long-term continuous, cycle-to-start, spiral-rising whole-person, whole-course, and all-round health services [11]. There are three steps to health: 1) understanding one's health with health data collection and health screening; 2) caring for and evaluating one's health with health risk assessment and health evaluation; and 3) improving and promoting one's health with health risk intervention and health promotion. Health management seeks to achieve the maximum health benefits through the most optimal resource investment. With this practical process, health

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screening and data collection is the premise, health assessment and risk analysis represent the means, health risk factor intervention is the key, and health promotion is the goal.

Medical professionals with corresponding qualifications or training in systematic medicine can offer health management services to individuals who are healthy (asymptomatic) or managing non-communicable diseases. To support these services, information technology can provide technological support and empowerment, and financial insurance can reduce economic hardships.

Implementation of the "533 Health Management" Project and Further Promotion of the "Healthy China" Strategy

In order to address the increased incidence of chronic diseases and pressure of population ageing, it is necessary to alter the strategy from "treatment-centred" to "health-centred". To this end, the State Council promulgated the "Healthy China 2030" Planning Outline in 2019 and formulated the "Opinions on Implementing the Healthy China Action" [12,13]. After five years of hard work, China's health service industry has maintained an overall well developing trend, but contradictions and difficulties remain. On the health industry side, patient data records were often incomplete and discontinuous, and medical institutions failed to share data and break data barriers. No chronic disease multidimensional health risk assessment model had been formed. On the population's side, low health literacy led to people not adapting to healthy lifestyles. Hence, the country ineffectively met health needs of the population, including an unbalanced development of the health service industry, poor accessibility to health services, and relatively low-quality services [14].

In order to find a solution, China must rely on scientific and technological progress. Therefore, the "Healthy China" strategy aims to develop healthcare with 5G+ technology. The three characteristics of connection, interaction, and aggregation of Internet health services can promote the interconnection of information within health service institutions, the intercommunication of health services for service providers, and the union between service institutions. It breaks down the information barriers of health resources and makes health data open and connected.

This "533 Health Management" system seeks to build personal health profiles for Chinese residents using early (early screening, assessment, intervention) and comprehensiveness (comprehensive population, areas, life-cycle) active health management service systems. It combines 5G networks and medical and health wearable devices as well as relies on big data technology and artificial intelligence [15]. Furthermore, it integrates health information resources, including hospitals, physical examination centres, health management institutions, insurance institutions, and third-party institutions, that build wearable devices. Through this platform, the decentralised health data of individuals, families, communities, medical institutions, health management institutions, and commercial insurance institutions can be integrated into personal dynamic health electronic profiles, which can be viewed in real-time by medical staff, health managers, and individuals. These links provides protection for individuals and families to achieve active health consultation through the remote consultation system.

As the system aims to build standardised and generalizable chronic disease risk stratification assessment and early warning models, it integrates a new health service model of "health management + health insurance". After the early screening stage and early assessment stage, individuals' risks are identified, and the system formulates individualised and precise intervention plans, such as improving lifestyle factors (e.g. diet, exercise), mental health, and continuous follow-up and assessment.

In 2022, the pilot programs of the "533 Health Management"' project will be launched nationwide, focusing on health management services for chronic diseases such as cerebrovascular disease, diabetes, and obesity. First, the "5G+ Zhiweibing and Three-Early Health Management System" collects individual health data using traditional Chinese medicine questionnaires and infrared thermal imaging technology. Using a system combining Chinese medicine concepts and artificial intelligence, it automatically analyses data and provides individualised conditioning and intervention (e.g. traditional Chinese medicine acupuncture, Tui Na, massage, dietary regime). Second, wearable "533 Health Management" devices, like the minimally invasive continuous glucose monitoring device, can assess real-time glucose levels and provide timely recommendations on nutrition and physical activity. Over the next three years, the "533 Health Management" project aims to build a new health service model to achieve health promotion, disease prevention, and chronic disease management.

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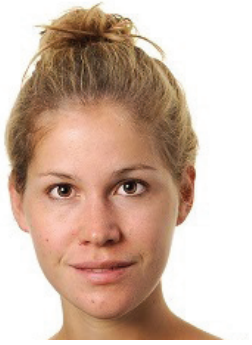
Hands-on Deck Approach toward Planning and Implementing Advocacy in Global Health from Junior Doctors' Lens

Marie-Claire Wangari

Yassen Tcholakov



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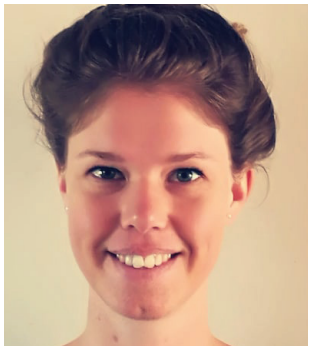

Laura Kalkman

On 9 April 2022, the Junior Doctors Network (JDN) of the World Medical Association (WMA) organised the webinar, Sharing Best Practices – How to Plan and Implement Global Health Advocacy. As part of the 75th World Health Assembly (WHA75), the event offered an opportunity for student and early career professional groups to share experiences between different organisations and inspire audience members to actively participate in global health advocacy (Figure 1). Other participating organisations included Universities Allied for Essential Medicines (UAEM), the International Federation of Medical Students' Associations (IFMSA), the Spice Route, and the Young Doctors' Movement of the World Organisation of Family Doctors (WONCA) South Asia region. During this webinar, speakers explained how their organisations meaningfully engage youth in advocacy activities, taking into account the policy cycle of identifying a problem, determining goals and a target audience, and then implementing this plan while continuously receiving feedback to improve activities [1].

Being a health advocate is recognized among the core competencies of physicians and other health care providers [2]. However, this is often not reflected in educational strategies to prepare students, postgraduates, and early career professionals. In order to teach advocacy skills, such strategies that move away from classical lectures and seminars and include more interactive formats (e.g. simulations) and hands-on experiences (e.g. project placements) should be promoted [3].

Figure 1. Promotional poster for the Sharing Best Practices webinar, held on 9 April 2022. Credit: JDN

Key Messages from the Panellists

Junior Doctors Network

The JDN alumnus showcased actions taken by junior doctors to shape the global climate change agenda, underlining the background of increased vulnerability and the health outcomes of climate change. First actions involved the drafting process of internal policy documents (as well as the revision of existing policies) to set the WMA position as the base for

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further advocacy efforts. Additional steps included conducting research and data collection in collaboration with global academia and international organisations, in efforts to communicate the health professionals' perspectives to policymakers.

Parallel to these efforts, the JDN followed global policymaking venues, such as meetings of the United Nations Framework Convention on Climate Change (UNFCCC) including negotiations of the Paris Agreement, and reported findings to JDN members, the WMA leadership, and the health community at large. These efforts involved working closely with decision-makers and stakeholders such as member states, Non-State Actors (NSA), and the World Health Organisation (WHO). In addition, the JDN was involved in a joint initiative with the WHO and the Global Climate Change and Health Alliance (GCHA). In closing, the speaker recommended that young advocates do not underestimate the impact of their voices, be patient and maintain their enthusiasm, and collaborate with others while avoiding duplicated efforts.

International Federation of Medical Students' Associations

Iris Blom, IFMSA Liaison Officer to the WHO, shared the organization's vision to ensure that youth voices are engaged in global health decision-making at the highest level, noting the importance of youth participation at the WHO. Given their official relations with the WHO, she highlighted that the WHA serves as a platform to engage with stakeholders and decision-makers from member states and WHO officials in Geneva. Since the WHA75 offered a valuable virtual space to connect, to create a platform for interaction in the virtual space, IFMSA leadership invited numerous youth stakeholders as well as WHO Officials (including the WHO Director-General) to interact on a virtual space (Twitter) [3,4]. They presented results of tracking youth engagement during the meeting and shared reflections from medical students and general takeaways for youth engagement. IFMSA leadership plans to enhance structured modalities of engagement, such as the national youth delegate programs to the WHO.

Young Doctors' Movement of the World Organisation of Family Doctors

Dr. Sankha Randenikumara, the WONCA Young Doctors' representative, presented an example of best practices on local advocacy in Sri Lanka. With the vision to integrate family medicine concepts into primary care practice in a resource-poor rural setting, they built the infrastructural and human resource capacity of a primary care clinic, progressively increasing primary care services and decreasing congestion at already overloaded secondary and tertiary hospitals. He actively advocated for the extension and reorganisation of the service delivery model at the clinic, to provide first-contact, personalised, comprehensive, continuous, and coordinated services to families and communities with a focus on health promotion, disease prevention, and health education. They combined both facility- and community-based approaches to increasing access to health promotion and preventive services, sufficient water and sanitation, herbal gardens, and better waiting areas at clinics.

As a junior doctor, he worked with a committee of other experienced doctors and community representatives, where they could achieve one common goal: creating a model primary health care centre that could be emulated throughout Sri Lanka. The initiative received a provincial award, and the organisers were invited by the World Bank to join an expert committee for a national project. Although a successful project, he noted that differing priorities of external supporters had posed a few challenges. Hence, he reiterated that it is important to manage team priorities while balancing sponsors' needs (albeit more financial power). He highlighted that as personal experiences are valuable for one's advocacy efforts, starting at the micro-level and embarking on an unexplored path can present an enormous opportunity for personal and professional growth and success.

Universities Allied for Essential Medicines

Dr. Maurice Remy, the European Coordinator of UAEM, introduced national advocacy efforts for coronavirus disease 2019 (COVID-19) prevention and control in Germany. Several actions emphasized the need for the public return of governmental investments to research and development of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) diagnostics, therapeutics, and vaccines, including socially responsible licensing. Through press releases in local and national journals and newspapers, radio stations, podcasts, and webinars, they raised public awareness and engaged the wider community in a petition addressed to the German government. Additional advocacy efforts provided UAEM advocates with a campaign roadmap, including templates and guides for social media, complementary materials, and links to educational webinars. Reaching out and collaborating with other youth organisations helped to increase visibility by resharing and reposting tweets and statements or collaborating on joint educational events. As lessons learned, he noted that setting clear goals of advocacy actions and tailoring efforts to the intended target group are essential,

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and that changing public discourse will require a quick reaction and a shift of the campaign focus.

Conclusion

In summary, this JDN webinar highlighted how different youth-led organisations advocated on global health topics. Speakers described how they worked on policy activities, collaborated with internal and external stakeholders, and addressed decision-makers' concerns. They also stressed that advocacy efforts through on-the-ground actions or virtual spaces can increase awareness on pressing topics and improve population health.

The WMA JDN plans to continue advocacy work through its working groups, with the Working Group on WHO Activities specifically focusing on capacity building and engagement around this UN agency's field of work. These upcoming events will offer junior doctors and other youth members an opportunity to acquire essential skills to participate in health advocacy, harnessing their energy, skills, and practical experiences to tackle health challenges. Also, the WHA75 incorporated sessions where junior doctors could directly engage with the WMA leadership on drafting interventions, learn techniques on how to approach stakeholders and decision-makers, and raise awareness with the broader public.

Lastly, incorporating social media in individual advocacy efforts can lead to a greater reach to organizational members and the wider community. During the Pre-WHA workshop and the WHA75, the JDN delegation promoted the first JDN Twitter space [4]. The JDN leadership and delegates posted several tweets during the Pre-WHA and WHA75 using two hashtags (#JDNWHA and #JDNWHA75). These online interactions led to increased traffic on the JDN's Twitter handle with the Twitter space announcement. Notably, the JDN's most interacted Tweet to date included 4,275 impressions (as of 19 June 2022), and the JDN's Twitter account increased the engagement rate by 3.7% between 25April and 31 May 2022 (as of 19 June 2022) [5].

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2022 Kenya Medical Association's Young Doctors Network Conference: The Unspoken Mental Health Pandemic

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The Kenya Medical Association (KMA) (http://kma.co.ke/) houses the Young Doctors Network (YDN) (http://kma.co.ke/contact-us/committees-and-divisions/kma-ydn) committee, which aims to increase the participation of younger physicians in the association. The KMA-YDN aims to connect, develop, and support young doctors by providing opportunities to explore and develop their personal and professional growth.

One of these avenues is the annual one-day KMA-YDN conference, which is held as a prelude to the KMA Annual Scientific Conference (ASC). Using the theme, "The Unspoken Mental Health Pandemic", this year's conference was held on 1 May 2022, in Eldoret Town. This event incorporated various social media campaigns and conversations on mental health in the months leading up to the event. These side events intended to amplify the voices and efforts towards creating safe spaces for mental health advocacy in the country.

Background

In 2019, Uhuru Kenyatta, the president of the Republic of Kenya, highlighted that the country was facing a mental health crisis, which led to the formation of a Mental Health Taskforce to address the mental health concerns of Kenyans. After reviewing the mental health landscape, the Mental Health Taskforce recommended a presidential declaration of mental ill-health as a national public health emergency. Further, the Taskforce urged the government and employers to provide healthy working spaces and access to mental health amenities [1].

The national burden of mental health illness is concerning. In Kenyan health facilities, an estimated 25% of outpatients and 40% of inpatients suffer from mental conditions, such as depression, substance abuse, stress, and anxiety disorders [2]. Notably, the COVID-19 pandemic placed a serious strain on healthcare workers' mental health and well-being, due to the strenuous nature of serving on the frontlines [3]. The "Protecting the Wellbeing and Strengthening the Resilience of Frontline Health Workers" study, which interviewed nurses and community health volunteers between January 2021 and June 2022, concluded that two in every five healthcare workers reported symptoms of post-traumatic stress disorder [4].

Furthermore, in 2021, mental health conditions cost the Kenyan economy US $572 million, which is equivalent to 0.6% of the country's Gross Domestic Product (GDP) [5]. Considering this burden, the KMA-YDN aimed to increase mental health awareness, particularly among health professionals, and utilised the

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pre-conference to offer a platform to discuss ideas on improving mental health and well-being.

Mental Health in the COVID-19 Era

The opening address was presented by Dr. Priscilla Makau, the technical assistant for the Presidential Advisor on mental health. She highlighted the key efforts of the Kenyan government towards improving the state of mental health services through the Mental Health Taskforce as well as the planned construction of the 600-bed capacity, international-standard neuropsychiatric hospital in Kajiado County.

In addition, Dr. Kariuki, Dr. Mutisya, and Dr. Kayiza (in absentia) from the University of Nairobi provided an informative presentation on the increased cancer risk of using oral and nasal toxicant products such as khat and tobacco products. Presenters recommended that further in-depth investigations be conducted on these products in the Kenyan market and their potential effects. They also suggested to advocacy efforts can inform policy decision-makers and lobby the government of Kenya to regulate all smokeless tobacco, areca nut, and khat products.

Mr. Kevin Kipkoech and Ms. Precious Esther from Maseno University gave a presentation on a study from the Maseno University/ KEMRI - Stanford Research Group on COVID-19 and the health of Adolescent Girls and Young Women (AGYW) in Kisumu. They highlighted the Friendship Bench intervention as one of the mental health strategies to tackle the negative impacts of gender based violence (GBV) amongst the AGYW.

In the first plenary session, panellists acknowledged how the COVID-19 pandemic affected the mental health and well-being of the general population, noting the continued moral injury affecting frontline health professionals. Furthermore, it was stressed that isolation due to lockdown and social movement restrictions fuelled loneliness that either triggered or worsened depression amongst health professionals and the general public. To address this challenge, panellists emphasised how mental health needs a multidisciplinary approach for collaborative efforts with psychologists in case management. Debriefing sessions and safe space provisions at workstations can promote mental health support for health professionals.

It's Ok not to be Ok: Stories from the Frontline Plenary and Thriving at Work Workshop

These two sessions were preluded by a fireside presentation by Dr. Yingzi Zhao, who described key preliminary findings from an ongoing study on the licencing internship experience for General Practitioners in Kenya. He said that the study showed that 61% of respondents felt that they were unable to have a work-life-balance during their licensing internship, with 53% of respondents feeling worn out due to the workload. These negative outcomes ultimately had a ripple effect on their choice of specialties, with the majority wanting to opt-out from the clinical specialties.

This presentation paved the way for the following two sessions, which were held as open-space discussions on the concept of "thriving at work". This concept is based on the Thriving at Work report (https://www.gov.uk/government/publications/thriving-at-work-a-review-of-mental-health-and-employers), which summarised the findings of an independent review on mental health and employers in January 2017, that was conducted at the request of the United Kingdom Prime Minister, Mrs. Theresa May.

These two conference sessions shared the report findings and the applicability to junior doctors in Kenya and Uganda. Whilst there was a growing appreciation of the acute need for solutions that improve doctors' well-being, particularly in their early careers, burnout, substance use problems, and suicide were mentioned as some notable concerns. The KMA National Leadership and senior physicians in attendance voiced their willingness to support efforts that improve mental health within the health workforce and fortify mental well-being in the medical profession.

In spite of the lively discussions, the topic of "thriving at work" was far from exhausted, and there was a general consensus on having more KMA sessions that offer up-to-date solutions to enhance mental health and well-being of KMA members and health professionals.

Speed Mentorship Workshop

As one of the solutions towards strengthening mental health and well-being amongst health professionals, a speed mentorship session gave participants the opportunity to mentor and reverse-mentor each other for 10-15 minutes (Photo 1). Topics included career development and branding, the art of networking, global health leadership, work-life balance, and doctorpreneurship (combined entrepreneurship, investments, and savings). The session also had fireside presentations on financial options available to KMA Sacco young doctors as well as a lecture by Dr. Michael Mwachiro on the importance of mentorship with personal insights from his book, *Reflections on Mentorship*.

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Photo 1. In-person attendees for the Speed Mentorship session at the KMA Young Doctors Network Conference 2022. Credit: Dr. Simon Kigondu, KMA President

Social Media Initiatives

Preparing for the conference, the KMA-YDN had collected stories from members during World Mental Health Day 2021 ("Mental Health in an Unequal World"), to guide them when curating this national conference. Also, the KMA-YDN hosted Twitter Spaces for both workshops, which promoted mental health and well-being in the workplaces of KMA members and the general public. Furthermore, the launch of the initiative, #TufungukeMadaktari (Let's open up doctors" in Kiswahili), resulted from a tripartite agreement between KMA, the Kenya Psychiatrists Association (KPA), and the Chiromo Lane hospital, the leading private mental health hospital in Kenya.

Other Initiatives

To promote physical activity after the conference, the KMA-YDN hosted a soccer match between the KMA football team (Daktari FC) and the local medical school football team (Moi University) (Photo 2). The match ended in a thrilling 2-2 draw and paved the way for plans to host more activities through the KMA divisions and the Medical Students' Associations of Kenya (MSAKE) chapters (https://twitter.com/MSAKE_Kenya).

Conclusion

The 2022 KMA-YDN Conference discussed the burden of mental health challenges and presented innovative solutions to mitigate risk amongst the general Kenyan population and its health professionals (Photo 3). These efforts included social media campaigns, such as the Twitter spaces and the launch of the #TufungukeMadaktari initiative, which both provided a valuable platform for doctors to find outreach resources, attend skill-building workshops, and participate in sports activities.

The KMA-YDN calls on junior doctors and national medical associations worldwide to enhance advocacy efforts that increase investments and promote initiatives for universal access to mental health services. However, this can only be achieved when we put the health of our health professionals first, namely their mental health and well-being. Hence, we call upon junior doctors' networks and national medical associations to have multiple avenues for this such as mentorship sessions, open space discussions and sports and games that complement the clinical options offered, so as to enable their members thrive at work. As the saying goes, "there is no health without mental health."

Photo 2. Daktari FC team with the KMA National Executive Council and the KMA Conference Keynote Speaker, Dr. Letlape Tebogo Kgosietsile, President of the Association of the Medical Councils of Africa (AMCOA). Credit: Dr. Simon Kigondu, KMA President

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Photo 3. Event speakers, organizers, and attendees at the 2022 KMA YDN Conference. Credit: Dr. Simon Kigondu, KMA President

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Highlights from the 75th World Health Assembly

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Caitlin Pley

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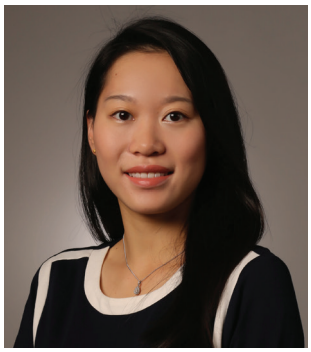

Wenzhen (Jen) Zuo

Lwando Maki

Flora Wendel

Marie-Claire Wangari

Wunna Tun

The World Health Organization (WHO), founded in 1948, is a United Nations agency that works to achieve its vision of all peoples attaining the highest possible level of health. The WHO strives to promote health, keep the world safe, and serve vulnerable populations. The WHO is composed of three important bodies [1]:

- Secretariat, which consists of the staff working for the organization;
- Executive Board (EB), which is composed of 34 individuals elected by the Health from different member states Assembly, considering equitable geographical distribution (with a minimum of three members for each WHO Region);
- World Health Assembly (WHA), which serves as the WHO's highest decision-making body where each member state holds one vote and where the direction of the organization is set.

The WHA usually meets once a year in May, although special sessions can be called for on an ad hoc basis. It convenes all 194 WHO member states, a number of official Observers, as well as Non-State Actors (NSA) such as non-governmental organizations. The World Medical Association (WMA) is an organization in official relations with the WHO, which allows it to participate in the meetings of the WHO Governing Bodies (WHA)

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and the Executive Board meetings amongst others as NSA. Thus, the WMA forms an official delegation and attends the WHA to represent physicians from its member associations in discussions on global health-related issues. Furthermore, the WMA also sometimes partners with other organizations to amplify its reach. One such example is the World Health Professions Alliance (WHPA), which brings together 41 million health care professionals worldwide, including dentists, pharmacists, nurses, physiotherapists, and physicians.

The WMA leadership coordinates the organization's activities related to its representation at the Assembly, and the Junior Doctors Network (JDN) actively contributes to that work. The JDN has been organizing capacity building workshops and sending delegations to the WHO governing body meetings since its foundation. Individual JDN members also present their inputs on the WHA agenda items through diverse channels, consultations, and social media.

Key Issues at this WHA

Although numerous critical global health issues were discussed at this WHA, this article will not present a comprehensive overview of all such items. It will describe selected topics of importance, which were suggested for follow-up and reporting by the WMA leadership or attracted interest of the JDN delegates.

Opening Address and Re-election of Dr. Tedros Adhanom Ghebreyesus

At the 75th World Health Assembly (WHA75), the opening ceremony highlighted the theme, "Health for peace, peace for health". Various heads of state gave addresses with the overarching message of gratitude for the WHO's efforts during the COVID-19 pandemic and the continued calls for peace due to the various impact of wars upon socio-economic and health systems (Photo 1).

Dr. Tedros Adhanom Ghebreyesus, the WHO Director-General, also gave a moving welcome address [2], where he shared his personal story of being a child of war and how these experiences affected him. He highlighted that disease is compounded by war, climate change, and geopolitical issues, and shared information from his visits to conflict regions both in Ukraine and Yemen. Finally, he called on all Member States to ensure peace for health and to use health as a way of bringing and maintaining peace.

Dr. Tedros Adhanom Ghebreyesus also addressed the global impact of COVID-19 and thanked the global health community for the efforts over the last two years and their collaborations with the WHO. He highlighted that although the epidemiological situation is currently improving, the COVID-19 pandemic is not over until it is over everywhere. He then reaffirmed the call for WHO Member States to commit to achieving a vaccine coverage over 70% for the general population and a 100% coverage for health care professionals, persons over 60 years of age, and other communities at greatest risk.

At the WHA75, the WHO Director-General, Dr. Tedros Adhanom Ghebreyesus was re-elected to the position for another five-year term. He took the opportunity to reiterate the five priority areas for his ongoing work as Director General [3]:

- enacting a radical shift towards promoting healthy lives and well-being, and preventing disease by addressing its root causes;
- reorienting health systems towards primary health care as the foundation of universal health coverage;
- strengthening systems and tools for epidemic and pandemic preparedness and response at all levels;

Photo 1. The Human Rights and Alliance of Civilizations Room where many WHA discussions and negotiations occurred. Credit: JDN

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- accelerate progress towards the Sustainable Development Goals through science and innovation, data and delivery, and digital tools;
- strengthening the WHO's leading role at the centre of the global health architecture.

Increase in WHO Financing

One of the most critical issues for the WHO is its financing. Indeed, currently only approximately 20% of the WHO's budget comes from the so-called "assessed contributions", which are non-earmarked funds that the organization can choose to deploy as it sees best in order to accomplish its mandate [4]. The remainder of the WHO financing comes from voluntary contributions by Member States, private funders such as philanthropic organizations, and the newly created WHO Foundation. Those voluntary contributions differ from assessed contributions, as they are usually given for a specific area of work or a specific project. Thus, they provide the organization with less flexibility in determining how to best use these resources to address general public health needs or respond to unpredictable events.

WHO financing has been ambitiously discussed many times in the past, but overall dialogue leads to a very modest change. This year, however, those discussions were critically different: Member States agreed to work towards increasing their assessed contribution to cover 50% of the budget by the 2030-2031 budget cycle. Although these negotiations have not been easy, the WHO Working Group on Sustainable Financing – unable to reach consensus during WHA74 and requiring an extension until WHA75 – noted that these valuable discussions will likely result in WHO's increased sustainability and capacity to deploy its programs.

Non-communicable Diseases

During this WHA75, a renewed roadmap 2023-2030 for non-communicable disease (NCD) treatment and prevention offering technical guidance to the Member States was discussed. This roadmap highlighted ways of improving knowledge on NCD epidemiology and means of addressing barriers to implementing cost-effective interventions for prevention and control efforts. It also offers recommendations for the integration of NCD services into primary healthcare and continued work to streamline these comprehensive services. During these discussions on the roadmap, Member States expressed their concern that there had been insufficient attention paid to NCDs, especially with regard to financing, despite NCDs recognized as the leading cause of death worldwide. Also, while there was some progress on the reduction of tobacco use, no significant progress in reducing other NCD risk factors across WHO regions was described.

Additionally, the importance of mental health and access to mental health services was underlined. This is a key issue that needs to be addressed at the community and primary healthcare level due to the underlying stigma and discrimination, despite the important impact on entire health systems. It was also noted that the mental health of frontline healthcare professionals had been particularly affected during the COVID-19 pandemic. Lastly, Member States were also urged to explicitly describe how they plan to tackle environmental risk factors relating to NCDs, such as air pollution.

Health Emergency Architecture

As the WHA75 promoted the theme of peace, technical and political issues were widely discussed among Member States. Conversation around health emergencies mostly revolved around debating two competing resolutions on the situation in Ukraine: one proposed by Ukraine and 45 Member States, and the other proposed by Russia and one other Member State. The outcome of these discussions was the adoption of the Ukrainian resolution with a strong majority, and the rejection with a strong majority of the Russian resolution, which was characterized as "a tool for disinformation" by the Ukrainian delegates. Indeed, the Russian proposal failed to mention that the current state of the Ukrainian health crisis was secondary to an ongoing war. The adoption of this resolution means there will be a report prior to the next WHA76 on how much the Russian Federation has respected the call to action. Continuous impacts on the health of Ukrainians from the attacks "would necessitate that the Assembly should consider the application of relevant articles of WHO Constitution" (meaning that it may suspend voting rights of the Russian Federation at a later assembly).

The COVID-19 pandemic has shown us the challenges of rapid, efficient, and coherent response in emergency situations. The need for new mechanisms and structures was rapidly apparent and attempts to create sometimes temporary, sometimes long-term new solutions to the challenges were seen over the past two years. Although some of those new initiatives have worked well and must be conserved, others have faced significant challenges. As such, they must attempt different ways to meet their objectives, which is recognized as the global architecture

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for health emergencies. Conceptually, this architecture includes:

- governance that ensures a coherent, equitable, and coordinated global health emergency response preparedness;
- systems and tools to prepare for, prevent, detect, and rapidly respond to health emergencies;
- financing to support the above governance and systems and tools.

A white paper by the WHO Director-General proposed a way forward for how to bring everything together. This paper places the WHO at the centre of pandemic governance through the establishment of the Global Health Emergency Council and the WHA Committee for Emergencies. It also aims to scale up the independent review process by moving the Universal Health and Preparedness Review (UHPR) process from its pilot phase to implementation phase. Finally, it delves in how we can strengthen systems already in place such as the global health emergency workforce and existent various partnerships. Finance is also identified as a key issue with some recommended temporary solutions.

Nevertheless, the white paper is still many steps away from a concrete plan for implementation. Those next steps will have to be discussed in future meetings and through structures that are to be set up. Importantly, despite naming them, the document poorly defines how equity and solidarity will be addressed, which should be one of the guiding principles in the future governance of health emergencies. Furthermore, it does not truly discuss root causes of health emergencies: poverty, environmental degradation, and conflicts.

Monkeypox

The WHO Health Emergencies Programme provided technical briefings to WHA delegates on the evolving multi-country outbreak of the monkeypox virus. The disease is endemic in Western and Central Africa, where it causes thousands of cases each year, although the true burden is unknown [5]. The WHO declared a "public health emergency of international concern" on 23 July 2022. Now, the ongoing outbreak across more than 90 countries has surpassed 40,000 cases, at the time of writing on 23 August 2022 [6]. This epidemiological situation is unusual, and genomic surveillance and investigations are ongoing. However, it currently appears that the heightened incidence in non-endemic countries, as well as the evidence for sustained human-to-human transmission, is likely the result of both increased global travel and waning population immunity to orthopoxviruses since the cessation of routine smallpox vaccination. Medical countermeasures against monkeypox virus exist, in the form of modified smallpox vaccines and an antiviral drug called tecovirimat, but they are in limited quantities and few health professionals are licensed to treat monkeypox.

WHA delegates commented that the goal of outbreak response in non-endemic countries should be containment, through a compendium of measures, including contact tracing, intensified clinical and laboratory surveillance, sensitization of clinicians, wider health education, targeted interventions for key populations, and the use of medical countermeasures. However, although the goal should be containment, experts acknowledged that significant uncertainty in the data, including clear evidence of undetected community transmission and thus no robust estimate of the extent of disease spread, meant that the ability to stop transmission could not be guaranteed.

Crucially, Member State delegates from the African and South East Regions pointed out that the global community was now paying the price for an endemic disease that had remained unmanaged for decades. The tools available to prevent and control monkeypox infections are scarcely available in endemic countries, and very little research is being conducted to advance our understanding of its dynamics and to develop better, more accessible tools. More investment is urgently needed to improve our capability to fight infectious diseases that are endemic in poorer regions of the world. However, regardless of the national security interests of high-income countries, all individuals, wherever they live, have a right to health and protection from disease.

Interventions

The WMA delivered a number of statements at this WHA on the following topics:

- Immunization Agenda 2030 [7];
- WHO's Work in Health Emergencies [8];
- Strengthening WHO Preparedness for and Response to Health Emergencies [9];
- Global Health for Peace Initiative [10];
- Draft Implementation Road Map 2023–2030 for the WHO Global Action Plan for the Prevention and Control of Non-communicable Diseases 2013–2030 (Constituency statement) [11];

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- Human Resources for Health (Constituency statement) [12];
- Joint WMA and GAPA Recommendations on WHO Draft Action Plan (2022-2030) to Effectively Implement the Global Strategy to Reduce the Harmful Use of Alcohol as a Public Health Priority [13].

Participation in the WHA

Civil Society Participation

This WHA was the first WHO Governing Body meeting that took place in person since the 146th Executive Board Meeting in February 2020. The resumption of in-person global health activities in Geneva are likely a good sign for the world, which will hopefully lead to continued meaningful engagement. This meeting was nevertheless impacted by many factors which limited engagement. Indeed, event invitations were sent very late to civil society organizations. Details regarding participation were provided only two weeks prior to the event, and organizations were given only two working days to process the registration of delegates. These WHO actions are contrary to the participation and representation principles held by the JDN and debatably also highlights a failure of the WHO to meet its legal obligations of engagement with civil society. We truly hope that the challenges faced this year are unique and that full engagement will be possible in future meetings.

The impacts of these actions were felt in the JDN delegation. Some delegates were unable to submit applications for visas to travel to Switzerland in a timely manner, and hence were unable to attend. Also, the delegation logistics were challenging as only a small number of people were allowed in the negotiation space. Despite these challenges, the JDN tried its best to play its dual role of empowering young and early career physicians as well as contributing to the WMA. While the JDN had coordinated virtual delegations to external meetings over the past two years, this was the first time that such an endeavour was attempted in a hybrid mode. Due to the successful hybrid meeting, JDN members agreed that the meeting format was beneficial for the organization and could enhance member participation and engagement in the future.

On a positive note, it is important to highlight that the WHO is also exploring ways of ensuring meaningful engagement of the civil society. This year, informal preparatory meetings were held for the second time, which were well attended and served as an interesting convening opportunity. Additionally, modalities of virtual participation can facilitate easier participation from a greater diversity of voices and should be maintained even after the pandemic.

JDN Pre-WHA Workshop

The JDN held a two-day training workshop ahead of the WHA Council Session (Photos 2-3). This hybrid event focused on giving the JDN delegation skills for their week-long engagements at the WHA75, such as Negotiating Global Health and Global Health Governance and Diplomacy and the WHO. Participants discussed crucial agenda items that affect junior doctors, namely, pandemic preparedness, NCDs, and human resources for health. In addition, the agenda included a workshop on Social Media and its Role in Global Health Advocacy as well as Careers in Global Health pertaining to transitions from clinical work to other fields such as public health and global health.

The event was attended by over 20 participants as well as approximately 20 online participants. In fact, there were minimal disparities among online delegates, who represented most of the WHO regions in Africa, Asia, and Europe. Important efforts were deployed to ensure that online delegates benefitted from the experience as much as those who were present in the room.

Social Media Presence

From 25 April to 31 May 2022, the Pre-WHA Organizing Committee posted key social media messages on

Photo 2. JDN Delegation in front of the Palais des Nations. Credit: JDN

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Photo 3. JDN Delegation to the World Health Assembly. Credit: JDN

matters pertaining to the WHA75 via the JDN social media channels (primarily Twitter and Instagram). The delegates' personal handles were tagged in key posts, and there were WHA75 specific hashtags for JDN's participation (#JDNWHA and #JDNWHA75).

Twitter analytics revealed that the interactions with the JDN handle increased considerably compared to other posts made in the year (engagement rate of 3.7%, as of 19 June 2022). Furthermore, the JDN hosted their first Twitter space where the delegation shared their experiences during the week of the Pre-WHA and the WHA75, with the Twitter Space Announcement being the JDN's most interacted Tweet to date (wih 4,275 impressions, as of 19 June 2022).

Conclusion

Numerous highlights occurred during this WHA75. The WHO Director-General was re-elected for another five-year term, and Member States agreed to work towards significantly increasing their assessed contributions and thus empowering the WHO to truly play its global health leadership role. Some progress was made in re-working the global architecture for emergency responses with the small steps of preliminary amendments to the International Health Regulations to enable further substantive changes in the coming two years. Notably, the changing global geopolitical situation was addressed through the theme of peace for health.

The WMA was present in all important discussions that occurred during the WHA. JDN members from around the world have consistency demonstrated incredible capacity to take on leadership in global health. We hope that this is recognized by the National Medical Associations, and that JDN members can contribute to national efforts related to global health, recognizing their wealth of experience and knowledge.

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World Tuberculosis Day 2022: A Closer Look at the Dominican Republic

Helena Chapman

Bienvenido Veras-Estévez

World Tuberculosis (TB) Day 2022 was commemorated on March 24, to increase awareness of the economic and social drivers associated with TB burden. TB is now the second leading cause of global mortality due to a single infectious agent – second to the coronavirus disease 2019 (COVID-19) – and has caused an estimated 10 million cases and 1.5 million deaths in 2020 [1]. Despite significant achievements to reduce TB case notifications and mortality over the past decade, disruptions in clinical, public health, and laboratory services due to the COVID-19 pandemic have resulted in the increased reporting of TB cases and deaths [1].

Using the theme, "Invest to end TB. Save lives", World TB Day 2022 campaigns highlighted the urgency of national investments to prioritize ongoing efforts and accelerate momentum to achieve the established targets of the End TB Strategy and the Sustainable Development Goals. The End TB Strategy includes milestones on reducing TB cases (90% by 2030, 95% by 2035) and deaths (80% by 2030, 90% by 2035) and eliminating catastrophic costs affecting families [2]. This strategy incorporates three pillars as a robust framework to ensure equitable access to high-quality TB health services: 1) integrated, patient-centred TB care and prevention (Pillar 1); 2) bold policies and supportive systems (Pillar 2); and intensified research and innovation (Pillar 3) [2].

Notably, the first UN General Assembly High-level meeting on TB, which was held in September 2018, offered renewed hope and joint commitment by Member States to strengthen investment for TB diagnosis, treatment, and prevention that reduces stigma and curbs TB transmission [3]. Using the theme, "United to end TB: An urgent global response to a global epidemic", this meeting resulted in the development of a political declaration to support continued progress to achieve End TB targets, which was later adopted by the United Nations General Assembly in October 2018 [3]. With these ambitious global targets, Member States strive to accelerate national plans and take immediate steps to curb TB transmission.

Impact of the COVID-19 Pandemic

In low- and middle-income countries, however, challenges were observed in the readiness of health system preparedness to manage the "dual epidemics" of COVID-19 and TB [4]. Unprepared health system leadership and infrastructure coupled with coexisting health priorities slowed efforts to implement solutions that increased access and availability of essential TB services. Also, insufficient health workforce support, recognized through continued training and appropriate workplace environments, and weak connections to primary health centres have hindered health teams to feel empowered in their daily tasks and build rapport with community members in their health promotion activities [4].

Potential recommendations can combat these challenges by ensuring that robust governance supports sustainable national health budgets and builds networks of community stakeholders [4]. Also, supporting health professional training and safe workplace environments can reinforce the health and well-being of essential personnel and reduce the risk of burnout or other mental health stressors. With increased internet coverage, albeit access issues that have been proposed as a social determinant of health, digital health interventions ranging from telemedicine to social media technology during the COVID-19 pandemic can be modified and adapted for TB care [5,6].

Americas Region

In the Americas region, reported TB deaths were more than 10% higher in 2022 than 2015 – where 3,000 deaths alone were attributed to the COVID-19 pandemic – with an estimated 291,000 new cases and 27,000 deaths [1,7]. Current Pan American Health Organization (PAHO) reports show that there are 13 high TB burden countries in the Americas region, defined with more than 10,000 annual TB cases

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or an incidence rate of more than 44 (per 100,000 people). These 13 high TB burden countries represent 88.7% of the regional burden, where Brazil, Colombia, Haiti, Mexico, and Peru represent 69.8% of the total number of TB cases [7]. Notably, three countries have documented an incidence rate of over 100 (per 100,000 people): Haiti (166.6 per 100,000 people), Peru (115.2 per 100,000 people), and Bolivia (102.8 per 100,000 people). These statistics demonstrate the ongoing TB burden within the Americas region and the critical need to take prompt action to end TB transmission.

A Closer Look at the Dominican Republic

The Dominican Republic (DR) is a middle-income country of 11 million residents and occupies the eastern two-thirds of the island of Hispaniola in the Caribbean. According to the World Health Organization (WHO), 4,500 new TB cases with an incidence rate of 41 (per 100,000 people) were reported in 2020, marked by a continued decline from 60 (per 100,000 people) in 2016 [8]. The DR Ministry of Health aims to follow the End TB Strategy, including stopping the TB chain of transmission, detecting 90% of TB cases, and curing 90% of diagnosed TB patients by 2035.

According to the *Strategic Plan for the National TB Response from 2019-2021*, 11 provinces represent 87% of the total TB cases in the DR, and four provinces have the largest number of co-infected TB/HIV cases [9]. This document highlights the need to focus on the social determinants of health, emerging drug resistant strains, co-infected TB/HIV persons, and at-risk populations living in marginalised communities [9]. This guidance document replaced the *Strategic Plan for the National TB Response from 2015-2020*. Notably, in March 2022, national health leaders met and declared that they will review the *Strategic Plan for the National TB Response from 2019-2021*, in efforts to update the content and launch the *Strategic Plan for the National TB Response from 2022-2025* [10].

Like other countries, as the COVID-19 pandemic influenced the delivery of essential TB services, existing gaps were observed in clinical care (e.g. missed opportunities for early diagnosis within at-risk communities such as prisoners and immigrants), community health (e.g. risk perception related to health-seeking behaviours, co-infected TB/diabetes cases), and laboratory services (e.g. expiration of laboratory reagents). However, the exact impact on the COVID-19 pandemic on TB incidence and mortality rates in the DR is unknown. We will describe a few specific clinical, epidemiology, and research gaps and proposed actions, aligned with the three pillars of the End TB Strategy, which were identified in the *Strategic Plan for the National TB Response from 2019-2021* [9].

Pillar 1. Integrated, patient-centred TB care and prevention

Patient-centred care that supports patients' holistic health care needs and decisions represents an essential component of TB prevention and control. In the DR, patient attrition to TB management has been attributed to multiple factors, including challenges navigating the health system (e.g. scheduling and quality of health services), social determinants of health, existing stigma and discrimination, history of mental illness or substance abuse, and poor health literacy [9]. Real-time surveillance monitoring at the DR National TB Program has been challenged due to weak connections between the provincial epidemiology centre and community primary care units (unidades de atención primaria, UNAP, in Spanish), especially for contact tracing activities.

By expanding the national TB surveillance system, DR health leaders can identify and monitor risk factors associated with patients' low adherence to the treatment duration related to directly observed treatment short-course (DOTS) [9]. Contact tracing can identify contacts of TB cases, monitor their symptoms, and refer individuals with respiratory symptoms to local health centres. Community-based education programs can help increase awareness of TB risk and disease, promote the importance of treatment adherence, and stress that TB is a curable disease, which can ultimately help reduce TB-related stigma and discrimination. By strengthening the networks between the National TB Program and hospital and community health staff – such as primary care physicians, medical residents, nursing personnel, and community health promoters – these health teams can contribute their technical expertise to promote integral, patient-centred care for TB prevention and control.

Pillar 2. Bold policies and supportive systems

The commitment of governments and national health systems is indispensable to support and maintain robust National TB Programs. In the DR, health leaders have reported that 15% of TB patients do not have a form of legal documentation (e.g. identification card) as part of the legal national registry [9]. As a result, they can face economic hardships as they may be unable to receive economic benefits of available social programs financed by the government.

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To address this gap, DR health leaders can collaborate with the Central Electoral Board to expand the national registry to eligible persons who merit status as well as community organisations to identify individuals who lack legal documentation [9]. The DR health system can also reinforce links between TB patients and two social programs, the Single System Beneficiary (Sistema Único de Beneficiarios, SIUBEN, in Spanish) and the Progression in Solidarity (Progresando con Solidaridad, PROSOLI, in Spanish). SIUBEN was founded in 2004, by the Executive Order 1073-04, to identify vulnerable persons and ensure their access to social programs and monetary subsidies, according to their socioeconomic status. PROSOLI was founded in 2012, by the Executive Order 488-12, to strengthen the social protection of families living in extreme poverty. Likewise, establishing links between TB patients and the Dominican Social Security System can offer additional economic resources including food supplementation. These efforts ensure that TB patients can have the appropriate legal documentation to access health services for prompt TB diagnosis and treatment and social programs for economic and nutritional support throughout the disease management.

Pillar 3. Intensified research and innovation

Operational TB research, which aims to analyse operational health services of local programs and develop solutions that can improve overall quality and effectiveness, can help advance scientific understanding of disease burden and streamline essential TB services [11,12]. In the DR, inadequate research funding to examine the effectiveness of established TB interventions and limited technical capacity linked with international standards to support operational research are recognized limitations [9].

As such, DR health leaders can identify potential national and international funding opportunities to support operational research that can closely examine current practices within the National TB Program and identify innovative recommendations to strengthen national TB response efforts [9]. The formation of a national TB research network can help share offer scientific events to disseminate findings that can energise the health community and reinforce a robust framework with best clinical and public health practices to combat emerging challenges in TB prevention and control. This network can also provide valuable learning opportunities for graduate students and early career professionals to gain key skills in designing and conducting community-based research studies.

Conclusion

During the COVID-19 pandemic, successful global achievements in TB prevention and control have reverted and may hinder efforts to accelerate progress toward the End TB Strategy and the Sustainable Development Goals. National health systems, together with guidance from leading health organisations, must invest in National TB Programs' efforts to end TB transmission. Notably, the World Medical Association (WMA), which supported the UN General Assembly High-level meeting on TB in 2018, prepared the WMA Resolution on TB in 2017 [13]. An updated WMA resolution will be fundamental to propel the WMA membership to take national action and promote the TB prevention and control guidelines of leading international organisations.

As forward steps, WHO and PAHO leaders have recommended timely actions to strengthen ongoing initiatives that can achieve the targets of the End TB Strategy and the Sustainable Development Goals [1,7]. First, early diagnosis initiatives can focus on expanding the universal application of rapid molecular tests (e.g. Xpert MTB Rif), identifying drug-resistant strains, and increasing the active surveillance of contact cases. These efforts can minimise laboratory errors and missed opportunities for early diagnosis. Second, guaranteed DOTS administration by trained health personnel at health centres or home visits can build rapport, avoid interrupted doses, and strengthen patients' adherence to long-term clinical management. Recent WHO guidance on six- and nine-month oral regimens for drug-resistant TB strains will offer short, cost-effective therapeutic regimens for TB patients [14]. Third, increased national funding for TB care, including food supplements, can provide TB patients with additional economic and nutritional support during their treatment. Surveys that capture the financial hardships for patients and families during their TB management will inform authorities of program gaps that can drive additional solutions to mitigate this family burden. Finally, increased efforts to identify vulnerable communities for TB transmission, including indigenous populations, can support the development of prompt and ethical health policies and continued education programs that can promote direct interactions among community residents, health practitioners, and leaders.

As we recognize World TB Day 2022 – and the "Invest to end TB. Save lives" theme – global health leaders continue to analyse the impacts of the COVID-19 pandemic on TB prevention and control efforts. To take

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collective action toward achieving the targets of the End TB Strategy and the Sustainable Development Goals, national health systems must commit sustainable funding for National TB Programs, renew links between the National TB Program and local communities, and develop proactive and innovative approaches to educate and reach at-risk populations for early diagnosis and treatment.

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WMA Members Reflect on World Oceans Day 2022

Credit: Romolo Tavani / shutterstock.com

Each year, World Oceans Day is commemorated on 8 June, and countries collectively raise awareness of the annual theme through activities, press releases, and social media campaigns. The 2022 theme, "Revitalization: Collective Action for the Ocean", provides an opportunity for global citizens to reflect on the marine ecosystem, recognize and understand the man-made impacts on ocean health, and encourage communities to develop initiatives that enhance ocean sustainability [1]. Oceans, which represent one-third of Earth's surface, offer numerous benefits to the world, including support for a diverse marine ecosystem, contributions to atmospheric gas exchange, and climate regulation [2]. However, oceans can also provide food and medicinal products, economic resources, marine transportation, and recreational activities [2].

All nations will need to prioritize ocean management and conservation in order to achieve the milestones of the Sustainable Development Goal (SDG) 14 (Conserve and sustainably use the oceans, seas, and marine resources). By applying the comprehensive definition of One Health, which was recently published by the One Health High Level Expert Panel, global leaders can strengthen efforts to promote healthy ocean ecosystems through multidisciplinary collaborations and community engagement [3]. In this article, physicians from 16 countries – the Dominican Republic, Iceland, India, Italy, Kenya, Malaysia, Myanmar, Nigeria, Philippines, Poland, South Africa, Spain, Sweden, Thailand, Trinidad and Tobago, and Uganda – shared insight and reflections about World Oceans Day 2022.

Dominican Republic

The Dominican Republic, a Caribbean island nation with approximately 11 million residents, is connected to the Atlantic Ocean to the north and the Caribbean Sea to the south. Ocean sustainability is crucial for our global ecosystems that are directly linked to human and animal health, promoted by the One Health concept [3]. The safe and proper management of coastlines is a significant priority for the political leadership of Caribbean island nations that depend on the multi-million-dollar tourism industry. As oceans offer an important income source for fishermen and consumers, economic profits can be invested in continued development of the tourism sector, including improved infrastructure and services. These actions directly impact the economic sustainability of coastline communities in nearby zones and regions.

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The Dominican Republic's Ministry of Environment and Natural Resources has represented a strong voice to protect natural ecosystems across the country. Notably, in July 2022, the All-Atlantic Ocean Research Forum 2022, hosted by Brazil, the United States, and the European Commission, launched the All-Atlantic Ocean Research and Innovation Alliance Declaration [4]. At this meeting, the minister of the Ministry of Higher Education, Science, and Technology (MESCyT, in Spanish) voiced his support for the collective regional and global commitment to ocean sustainability. For example, he mentioned that the arrival of sargassum has impacted the country's coastlines, and national leaders aim to identify alternative measures to use sargassum, such as food supplements for livestock and fertilizer and biofuel manufacturing. He also announced that MESCyT would continue to support funding for research projects that examine ocean health and biodiversity (e.g. sargassum, mangroves, marine life) – of the Atlantic Ocean and Caribbean Sea – and identify potential solutions to protect these natural ecosystems.

Furthermore, like other countries, another national challenge is plastic pollution. Recently, the "Plastic Island" term was used to depict the challenges of plastic bottle manufacturing and use, community-based activities that promote plastic recycling, and the collection and disposal of plastic bottles in landfills in the Dominican Republic and global oceans [5]. As this documentary offered a closer look at the impact of plastic pollution in the Dominican Republic, this example can be observed across other countries, stressing that plastic pollution remains a global priority.

Caring for our global oceans requires sustainable collaborations that can generate a cultural change within our society to actively preserve our natural resources. During this "decade of action", nations should form robust collaborations across disciplines and sectors to support specific actions that promote ocean sustainability. These efforts can include increasing overall awareness of our cultural interactions with oceans, promoting the appropriate use (reduce, reuse, recycle) of disposable materials, understanding the harmful effects of ocean acidification and overfishing, and developing policies and regulations with individual or industry sanctions for plastic and chemical pollution. As global health leaders, we have an indispensable role in propelling collective actions for this essential paradigm shift.

Iceland

As a Nordic island in the north Atlantic ocean, our country recognizes that healthy oceans are essential to protect all natural ecosystems. The recent report from the UN's Intergovernmental Panel on Climate Change (IPCC) noted the detrimental effects of climate change on our planet – including ocean acidification and changes to ocean currents affecting Iceland – and urged immediate action to combat the climate crisis [6]. Each June, we support World Oceans Day and Iceland's Fishermen's Day (*Sjómannadagurinn*), to raise awareness of the need to lead the sustainable use of natural resources and honor the dedicated fishermen and fishing industry since our nation's foundation, respectively. Since 1938, Iceland's Fisherman's Day has been celebrated on the first Sunday in June, which closely aligns with World Oceans Day on 8 June.

For decades, the Icelandic Environment Agency, under the Ministry for the Environment and Natural Resources, has coordinated national projects to protect the sea and its ecosystems. The agency focuses on disseminating timely information to the public about the state of marine pollution, including plastic pollution. This year, in connection with World Oceans Day and Iceland's Fishermen's Day, the agency hosted an exhibition in the capital city of Reykjavík, to educate the public on oil pollution in the sea and urge the call for global actions that minimize adverse effects on the surrounding marine ecosystems. Notably, the exhibition included a documentary that highlighted the swift actions of responders when the Wilson Muuga cargo ship ran aground at Hvalsnes in Reykjanes, the southwestern region of Iceland, in December 2006. Visitors observed the mechanical equipment on display, which was used to clean up the oil pollution after the spill. This historic example illustrates the delicate balance of our global ecosystems and our collective responsibility to respect and protect these natural resources.

India

India is a culturally rich and diversified country with a coastline that stretches over half of its perimeter. Coastline and landlocked communities are directly impacted by fluctuations in available employment opportunities and resources, such as seafood and fish oil, that depend on ocean sustainability [7]. Furthermore, as our coastlines include the most enchanting beaches in the world, the tourism industry is important for the national economy.

Ocean health is inextricably linked to human health. Infectious diseases transmitted through water, harmful algal blooms, poisoned seafood, and chemical pollution are all indicators that our oceans are in jeopardy. Whales, dolphins, and other marine animals swim in the

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microplastic-contaminated ocean waters and consume the same seafood that people ingest [8]. Maintaining the condition of our oceans involves more than merely safeguarding human health; it also entails inventing novel means of saving lives. The diversity of marine organisms in our oceans holds great promise for a multitude of medications and natural commodities to counter diseases and improve the quality of our lives. Novel drugs derived from marine sources have been created to treat cancer, antibiotic-resistant staphylococcus infections, inflammation, asthma, and pain [9]. As a global community, it is critical to recognize that ocean health affects us all in different ways and that we must take prompt actions to conserve this delicate ecosystem.

The government of India has taken numerous steps to improve ocean sustainability and production and reverse their decline. First, in 2020, the Ministry of Earth Sciences (MoES) released India's Draft Blue Economy Policy for public consultation, which aims to increase the blue economy's contribution to India's gross domestic product, improve coastal populations' lives, preserve marine biodiversity, and protect marine areas and resources [10]. Second, in 2019, India and Norway established the India-Norway Ocean Dialogue, where Integrated Ocean Management was emphasized as a strategy to manage renewable and non-renewable natural resources [11]. This marine framework, including the use of marine spatial planning, which can minimize economic sector conflicts and maintain the ocean's overall environmental condition. Third, over the next five years, India plans to establish a Deep Ocean Mission, with a budget of more than Rs 4,000 crore, to explore the marine ecosystem through deep ocean exploration and biodiversity conservation [12]. Finally, the MoES, supported by the National Centre for Coastal Research, is collaborating with selected United Kingdom and Japanese institutions, to examine the current distribution of marine litter and microplastics in Indian coastal sediment, water, and biota [13]. Considering these efforts, upcoming ocean initiatives can strengthen India's position as a vital fulcrum for sustainable development of ocean resources globally.

Italy

Italy, a country of almost 59 million residents, is surrounded by the Mediterranean Sea and includes several islands, including Sardinia. The Mediterranean Sea is a basin of the Atlantic Ocean, wedged between the lands of Europe, Africa, and Asia. The crystalline sea and the fine white sand characterize these Italian coastlines, including the Sardinian coastline of more than 1,849 kilometers long. As the ocean is a significant source of food and employment for surrounding communities and countries, environmental protection is a prerequisite for good health. Man-made activities on the land and sea can impact ocean health, as humans and nature are closely linked and inter-dependent [3].

Over the past year, several initiatives have been organized across Italy to promote the need to protect ocean resources and biodiversity. First, the Italian Ministry of Ecological Transition announced the proposal to designate the Mediterranean Sea as an emission control area for sulfur oxides. Second, among other photographic exhibitions, the Museum of Natural History "Giancarlo Ligabue" in Venice hosted "The Living Sea" exhibit, in order to raise awareness about the sea and its essential functions for human life [14]. Finally, the UNESCO Intergovernmental Oceanographic Commission launched 10 projects in Sardinia, to educate governments, private sector, and civil society about our oceans as valuable resources for our planet, health, and future [15].

As an Italian medical community, we should continue to discuss current challenges and develop a consensus for best practices to protect our oceans and surrounding ecosystems. As described in Andean civilizations, nature was recognized to have rights – the rights to exist and be restored in case of damage – but the inability to claim such rights. This notion alludes to the fact that human beings can claim these rights on behalf of nature [16,17]. For this reason, health leaders and citizens alike must integrate the One Health concept into our national and international action plans that protect our oceans. These efforts can include implementing community education programs on ocean ecosystems and developing policies and regulations with sanctions for plastic or chemical pollution by individuals or industries.

Kenya

Kenya, a country of approximately 51 million people, has a southwestern border with the Indian Ocean. Over the past few years, the Government of Kenya has reported variable rainfall patterns (e.g. shorter long rain seasons), increased droughts and floods, and sea level rise due to melting glaciers [18]. With the ongoing climate crises, climate risks include ocean acidification as well as projected sea level rise from 25cm to 82cm by 2080 [18]. These effects will directly endanger marine life, which provides oxygen for our planet, and hinder economic survival for ocean-based industries and trade located in surrounding landlocked countries.

The Government of Kenya was among the first African nations to sign the Clean Seas initiative (https://www.cleanseas.org/) in 2017, which

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aims to reduce plastic in water bodies [19]. These actions were a result of more than 3.7 kilos of plastic per capita that are found annually in the city of Mombasa, which lies along the Kenyan coast. Subsequently, single-use plastic bags were banned in 2017, and plastic disposable bottles, plates, and silverware were later prohibited in national parks in 2022. This political commitment, observed through environmental policies and legal enforcement, sets the stage for other African nations to establish robust guidelines and regulations to not only protect the marine ecosystem, but also to expand efforts toward the broader issue of climate change.

As we commemorate World Oceans Day, we must remember that we are responsible to protect our oceans as valuable natural resources. Our global efforts should advocate for the attainment of SDG 14 targets through strict environmental regulations, beach clean-ups, and the promotion of circular economies in the workplace.

Malaysia

Healthy oceans are – hopefully – what we can pass onto future generations. Land only occupies an estimated 25% of the Earth's surface, and yet we have managed to pollute the remaining 75% (oceans) with our activities. Malaysia, a country of 32 million residents in Southeast Asia, consists of the Peninsular Malaysia (between Thailand and Singapore) and Borneo (provinces Sabah and Sarawak). Most of the country is surrounded by bodies of water, including the South China Sea, Sulu Sea, and Celebes Sea. To commemorate World Oceans Day 2022, the Malaysian Department of Fisheries partnered with the oceanarium Aquaria KLCC and launched the "Danger to the Beauty" underwater mermaid show to demonstrate the harmful effects of microplastics in oceans [20].

For almost five decades, the Malaysian government has promoted environmental sustainability through the Malaysia's Environmental Quality Act of 1974. Over the past few years, many 3R (reduce, reuse, recycle) shops have emerged. With variation per state protocols, some shopping centres have installed a nominal fee for plastic bags, while others have completely abolished the usage of polystyrene foams and plastic bags. Notably, government leaders actively advocate for local beach, river, and sea clean-up activities for the public. They also regularly plant more mangrove trees to reduce soil erosion, support coastal regions, and create a safe habitat for the flora and fauna of mangrove swamps.

Malaysian citizens and tourists enjoy close connections with the oceans and participate in recreation activities like water sports, fishing, and beach activities. As a nation, we must take responsibility in preserving the marine ecosystem, participating in beach clean-ups, and being proactive in complying with the three Rs. General awareness and acceptance to reduce plastic usage in our medical practice and the general community will pave the way toward healthier oceans.

Myanmar

The ocean has long been the site of Member State warfare and diplomacy, where geopolitical conflicts have resulted from historical territorial claims or the need to occupy important strategic islands. Increased strategic and economic value of the ocean, imbalanced power, and limited diplomatic relations can lead to serious tensions and even naval warfare. These power inequalities over the ocean disputes have led to costly litigation and political maneuvering. As a global community, we are entering a new era regarding oceans and climate change, where international laws will be tested.

Ocean health is pertinent to the United Nations 2030 Agenda for Sustainable Development and the SDGs, namely through SDG 14 (life below water). However, SDG 14 is linked with SDG 1 (eliminating poverty), SDG 2 (ending hunger), SDG 3 (excellent health and well-being), SDG 10 (decreased inequalities), and SDG 16 (peace, justice, and strong institutions). When wild fish supplies in the world's oceans collapse, food insecurity grows, which negatively impacts impoverished persons depending on seafood. Chemical emissions from warfare into the seas endanger the aquatic ecosystem, which can lead to contaminated water supplies and toxic bioaccumulation in marine organisms. Ultimately, these impacts are detrimental to human and planetary health.

Clinicians, medical associations, and countries should work together to create warning systems that give timely and reliable information about how healthcare systems and physicians can identify and address marine-related health threats. Governments and transnational leaders will need to prioritize ocean governance in order to achieve the targets of the six SDGs that relate to ocean sustainability.

Nigeria

Although World Oceans Day is not widely celebrated across Nigeria, a country with 216 million residents, the Nigerian populace depends on the oceans for food, recreation, and transportation. The theme offers a call to action for Nigerian leaders to strengthen regulations for environmental monitoring and encourage residents to be proactive in

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protecting the ocean and other water bodies.

One important salt water source is the Bonny River, located in Rivers State of southern Nigeria, which empties into the Atlantic Ocean ("Okolomatoru" in the local Ibani language). The Bonny River provides economic opportunities for seafood harvests of crabs, scallops, and oysters; transportation from the island to Port Harcourt and neighboring communities; recreational swimming and boating; sanitation practices for locally constructed toilets at river banks; spirituality linked with supernatural powers upon drinking river water; and religious acts as items (e.g. coins, chicken, cloth) are thrown into the sea to appease the goddess of the sea.

Over the past two years, media sources have reported mass croaker fish (*Genyonemus lineatus*) deaths, including a deceased whale, on the shores of the Bonny River and other coastal cities in Rivers, Bayelsa, and Delta states in southern Nigeria. These observations led to national guidelines to strongly discourage the consumption of deceased fish. Initial research studies conducted on fish populations in the Bonny River revealed the presence of the bioaccumulation of heavy metals in tissues [21]. Further exposure assessments concluded that these toxic concentrations of copper, zinc, and iron in fish were far above the maximum recommended safe levels by the joint Food and Agriculture Organization (FAO) and World Health Organization (WHO) Committee [22]. After further review and analysis, these levels were linked to the crude oil spillage and other industry activities in the marine ecosystem.

Since physicians do not receive specialized training in toxicology, they may be unaware of the risks of heavy metal exposures on health outcomes. As a low-resource country, clinical diagnosis and management may be compounded by the lack of modern diagnostic facilities across health institutions. For example, patients may have to travel to other cities (like Port Harcourt) by sea or by air to access tertiary healthcare services. Moving forward, strengthening epidemiological surveys and screening programs can help identify any emerging illnesses within the community. Also, educational campaigns on water pollution, due to plastics or improper disposal of industrial waste and chemicals, can increase community awareness of potential hazards of consuming seafood.

Philippines

World Oceans Day 2022 highlighted the theme, "Revitalization: Collective Action for the Ocean", which emphasized the need to work together to create a new balance with the ocean that restores its vibrancy and brings new life. For the protection of biodiverse maritime species and resources, World Oceans Day offers a reminder to citizens that humanity depends on oceans for life and livelihood [1]. Global activities aim to inform the public of the impact of human actions on the ocean, develop a worldwide movement of citizens for the ocean, and mobilize and unite the world's population on a project for the sustainable management of all oceans [23].

The Philippines, a country of approximately 110 million residents, is located in the coral triangle region, bordered by the South China Sea (west), Philippine Sea (east), and Celebes Sea (southwest). Known as the "Amazon of the Sea", this maritime and archipelagic country has more than 50% of the population living and making a livelihood in the coastal zones [24]. According to the Philippine Government's Department of Environment and Natural Resources (DENR), the marine biodiversity of the Philippine seas includes various species, such as five marine turtles, 28 marine mammals, 168 cartilaginous fishes, 648 mollusks, 829 algae, 1,062 seaweed, and 1,755 reef-associated fishes [24].

As a Filipino nation, we recognize that ocean resources are limited and vulnerable to many emerging challenges, such as overexploitation, effects of climate change, and marine plastic pollution. To commemorate the Month of Ocean 2022 in May 2022, DENR personnel collaborated with selected local and national government agencies and community stakeholders in General Santos City, leading activities including coastal clean-ups, clean-up dives, and educational seminars on the proper disposal and recycling of plastics and recommendations to avoid single-use plastics [25]. Using the theme, "Protect, and Restore Ecosystems and Biodiversity", these activities aimed to encourage Filipino citizens to promote the protection, preservation, and conservation of marine biodiversity, leading up to World Oceans Day [25]. Notably, the DENR'S Biodiversity Management Bureau and the Philippine Coast Guard signed a formal agreement to address emerging issues, needs, and gaps that hinder the conservation of the coastal and marine ecosystems [26].

Poland

The Polish Chamber of Physicians and Dentists greatly appreciates and supports the celebration of World Oceans Day. We believe that this day presents an excellent opportunity to raise public awareness of our oceans,

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including reported warming waters and increased chemical and plastic pollution. Global ocean warming and pollution negatively impact the delicate marine ecosystem and human health. Caring for ocean waters and promoting healthy ecosystems, which represent inestimable treasures of the planet Earth, must be constantly supported and promoted by all countries across the world.

Physicians, who are acutely aware of the risks associated with ocean warming and pollution, should actively participate in community educational activities that promote pro-environmental behaviors. They should also contribute to protecting the natural environment each day by reducing plastic consumption, preventing food waste, and saving water resources. The medical community has the responsibility to take care of the natural environment – including our global oceans – which will be handed over to future generations.

South Africa

South Africa is endowed with a long coastline, spanning approximately 3,000 kilometres along the south Atlantic and Indian oceans. The country's rich oceans sustain a complex web of socio-economic activities, including commercial oil and gas, aquaculture, tourism, conservation, port harbours, fisheries, and telecommunication. The ocean is also linked to South Africa's cultural heritage, and is therefore significant for the well-being of South Africans and the safeguarding of traditions.

The unsustainable use of oceans, seas, and marine resources has a myriad of impacts on health and livelihoods. With more than three billion people worldwide depending on marine and coastal resources for their livelihoods, ocean deterioration has resulted from ocean acidification and overfishing as well as plastic, chemical, solid waste, and other forms of marine pollution. A marine litter crisis exists in South Africa, with South African beaches and coastlines getting flooded by solid waste, including plastic [27]. This raises the risk of microplastic toxicity via the food chain, with negative health consequences [28].

The Department of Forestry, Fisheries and the Environment has led several marine national initiatives, including the Marine Spatial Planning (MSP) initiative, the National MSP Data and Information Report (NDIR), and the Marine Protected Area (MPA) network [29]. However, we have observed that the health sector has had limited participation in these community and policy activities. This year, as the South African community coordinated World Oceans Day 2022 activities, we again noted that health stakeholder participation was sadly lacking in marking this important commemoration, presumably due in part to insufficient recognition of direct links between health and the oceans.

In conclusion, the South African Medical Association (SAMA) is encouraged by this year's World Oceans Day theme, namely "Revitalization: Collective Action for the Ocean". The imperative to collectively strengthen the resilience of marine and coastal ecosystems, and take action for their restoration in order to achieve healthy and productive oceans, is a universal human responsibility spelled out in SDG 14. We call on physicians and other health professionals in South Africa, the African continent, and globally, to rally behind the cause of sustainable ocean health.

Spain

The Spanish medical profession is an active member of the Organising Committee of the One Health platform, recognized as a comprehensive approach to health through the interrelationship between human, animal, and environmental health. Through the Foundation for Training, the Spanish General Medical Council (CGCOM) focuses its efforts on training professionals and citizens with seminars that raise awareness of One Health issues. In addition, the institution is working to adapt its Code of Ethics and Medical Ethics to make the preservation of the environment and the fight against climate change an ethical duty.

In January 2022, the CGCOM collaborated with several institutions to launch the Medical Alliance on Climate Change (https://www.cgcom.es/observatorios and https://www.cgcom.es/grupo-de-trabajos/salud-y-cambio-climatico). These institutions include the Scientific Societies of Anaesthesiology, Family Medicine, Preventive Medicine, Public Health Medicine, Health Managers, and Cardiology; the WHO Department of Public Health and Environment; the Spanish Office for Climate Change; the Representation of the European Commission in Spain; the European Parliament Office in Madrid; and the Ministry of Health in Spain. This Alliance aims to raise awareness among Spanish doctors and to take a proactive stance on the decarbonisation of health, in compliance with the 2030 Agenda for Sustainable Development. The initial document of this Alliance, which was prepared by expert authors, focuses on the long-term environmental and health effects of ocean warming as well as potential responses to combat the climate crisis.

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Sweden

Since Sweden's shoreline is one of the longest in Europe, many Swedes have a special fondness for the sea and the coastal regions. Due to climate change, rising sea levels threaten to affect the supply of both water and arable land in low-lying coastal areas. Increased rainfall from autumn to spring seasons can lead to flooding events and affect arable land. Such overflow can contaminate water reservoirs and increase the risk of transmission of waterborne diseases such as Salmonella. Also, antibiotic residues in the sea and the transfer of plastic contaminants between marine species and humans have been identified as significant health hazards.

Physicians have an important role to play in sharing information with global communities about the health effects of climate change and the importance of clean oceans. The Swedish Medical Association promotes innovative strategies to engage with citizens and raise awareness on appropriate medication use and disposal as well as the importance of adhering to recommended antibiotic prescriptions to reduce the risk of antimicrobial resistance. We also share information with healthcare providers and other decision-makers about disposable plastic, including how the healthcare industry recycles and disposes of its waste products. These collective efforts will ultimately accelerate the path toward achieving the targets of SDG 14.

Thailand

The Medical Association of Thailand is deeply concerned about maintaining clean and healthy oceans for our country and world. In Thailand, the ocean is the primary source of our protein intake as well as our salt and freshwater supply, and hence we cannot survive without this natural resource. Man-made pollution of the ocean, such as waste, cigarette butts, chemicals, and plastics, is extremely harmful to humans and marine ecosystems of fish, crabs, and shellfish.

In support of World Oceans Day 2022, we highlight an innovative initiative supported by the Ministry of Public Health entitled, "Smoke Free Beaches". After the Department of Marine and Coastal Resources reported that cigarettes were a significant source of pollution in the sand and water, a national law was introduced to ban smoking across 24 beaches in 2018. Disregard for this ban could result in jail time or fines. This unique Department of Marine and Coastal Resources of Bangkok program, which aligns tobacco control with healthy oceans and beaches, was publicly recognized with the World No Tobacco Day 2022 Award in May 2022 (https://www.who.int/news/item/27-05-2022-world-no-tobacco-day-2022-awards---the-winners).

Trinidad and Tobago

As a boy and Sea Scout in Trinidad and Tobago, I loved the ocean. I remember helping fishermen pull their nets and snorkelling over sea grass beds in clear seawater. Over time, however, seagrass became barren mudflats, the fiddler crabs disappeared, there were fewer fish, and the water grew turbid. Much of the coastline became polluted from the national oil and gas industry, with increasing plastic waste choking drains and rivers, contributing to worsening floods, littering coasts, and harming wildlife.

We live on a watery planet, with some 70% of the Earth's surface covered by oceans. The oceans help regulate climate, provide food and medicines, and transport most of our goods. Ninety percent of the excess heat of the global warming from the use of fossil fuels is stored in the ocean, powering more deadly hurricanes and bleaching coral reefs, which undermine food security and coastal defences. The oceans also absorb a significant amount of carbon dioxide produced by humans, slowing global warming, but acidifying the ocean with many negative impacts on marine life, such as plankton, shellfish, and corals.

My personal observations and understanding that our ecosystems are valuable natural resources motivated me to establish EarthMedic and EarthNurse (https://earthmedic.com/) in 2021. Using the theme, "Promoting the Health of People and Planet Together", this non-profit organization aims to mobilise health professionals globally as 'white coat diplomats' to advocate for "Patient Earth". These efforts are indispensable as our lives and livelihoods ultimately depend on the health of the Earth and especially the oceans.

Doctors and other health professionals in Trinidad and Tobago need to awaken to the planetary health crisis, especially the importance of ocean health, and address the twin threats of climate change and pollution. An excellent step in the right direction is the designation of Tobago's North-East region as the largest UNESCO designated 'man and biosphere' (MAB) site in the English-speaking Caribbean. This 840 square kilometre area is a mostly untouched ridge-to-reef ecosystem, including coral reefs, mangroves, and the world's first tropical rainforest reserve (Tobago Main Ridge Forest Reserve) established in 1776. By joining the World Network of Biosphere Reserves, the objective is to restore people's love and appreciation for nature and the ocean and help preserve this remarkable human and natural landscape.

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Uganda

Although Uganda is a landlocked country without access to open seas or oceans, our 47 million citizens are equally affected by the consequences of inaction towards ocean preservation. This East African country shares borders with Kenya (west), Democratic Republic of the Congo (east), South Sudan (south), and Tanzania and Rwanda (north) as well as Lakes Victoria, Edward, and Albert. With the current climate crisis, protecting marine and human health must be emphasized across our country and region, including caring for lakes and rivers.

As a call to action for our medical community, physicians can serve as leaders in local initiatives that support proper waste management, including proper placement and recycling of plastic bottles. Although we have observed that proper disposal of disposable masks occurred during the pandemic, we need to take prompt action on plastics. As physicians, it is important to become involved in leadership and advocacy activities to protect our ecosystems, such as education campaigns that can raise community awareness of the importance of healthy oceans and empower residents to take local action.

Conclusion

Each year, our global community recognizes international days and themes – like World Oceans Day ("Revitalization: Collective Action for the Ocean") – to highlight an array of key topics and promote collective action through education, policy, and advocacy activities [30]. By reflecting upon the valuable perspectives of physician leaders, we can appreciate these testimonies and learn about successful initiatives that have implemented across their nations to promote ocean sustainability. Using the One Health concept, we can better understand our direct connections to animal and environmental health, identify knowledge and practice gaps and limitations in current programs, and develop innovative practices to protect and conserve these marine ecosystems. By sharing our clinical and public health expertise with local and national authorities, we can help advance scientific knowledge and research capacity on ocean health, encourage citizens to become involved in community activities, and contribute to national plans that are aligned with the targets and indicators of SDG14 and other related SDGs of the 2030 Agenda for Sustainable Development.

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